

Indexable Type Drill

WSTAR Insert Drill Series

STAW/TAW

TAW

Stable performance, versatile,
changeable
insert type drill

Inch: ϕ .7344"– ϕ 1.1875"

Metric: ϕ 18.5– ϕ 30

L/D: 3D, 5D, 8D



STAW

Innovative insert
clamping offers stability
and reliability when
drilling small holes.

Inch: ϕ .3906"– ϕ .7188"

Metric: ϕ 10– ϕ 18.4

L/D: 1.5D, 3D, 5D, 8D

Indexable Type Drill

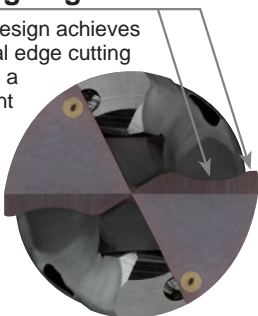
WSTAR Insert Type Drill

STAW

Designed for extreme sharpness, precision and rigidity

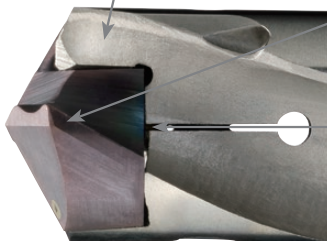
Wavy cutting edge

The wavy edge design achieves a sharp peripheral edge cutting performance with a strong center point for initial cutting.



High helix

Unique low resistance pocket design improves chip breaking for superior chip disposal.



Back metal

Sufficient back metal increases rigidity.

Centering location

Mitsubishi's unique system ensures high clamping accuracy.

Hole depth up to 8D (L/D 1.5, 3, 5 and 8 long type)

■ Stub type (1.5D)

High precision and efficient shallow hole drilling is possible. Suitable for drilling small parts using a lathe.

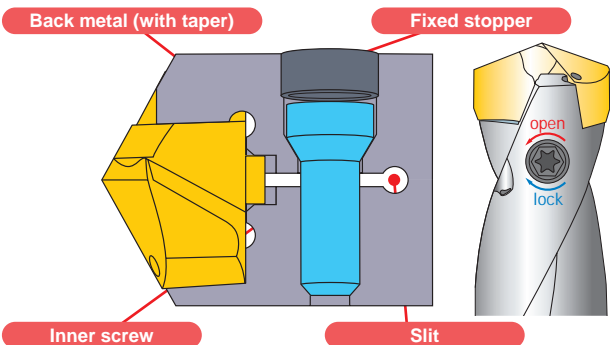


■ Long type (8D)

The body is optimized for deep hole drilling. Excellent chip evacuation and holder rigidity is achieved by improving the web thickness and flute width.



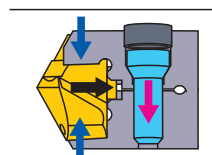
Mitsubishi's unique highly rigid clamping system (PAT.P.)



<Insert installation and detachment>

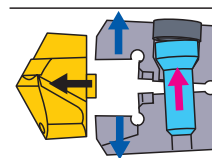
<Clamp>

Tighten the inner screw to securely clamp the insert with the back metal tapers.



<Unclamp>

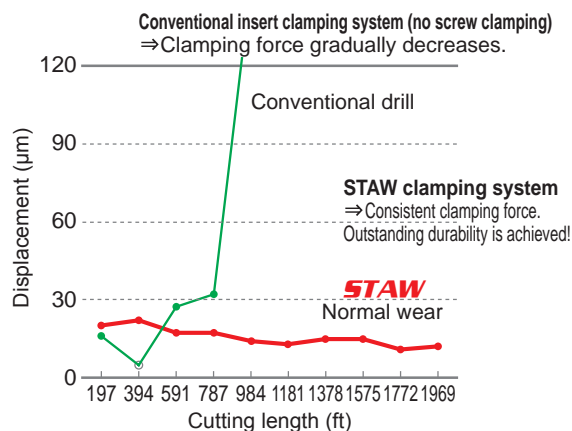
Loosening the screw causes it to push against the stopper and opens the back metal sections.



Durable body & insert

■ Rigid clamping system offers exceptional tool life.

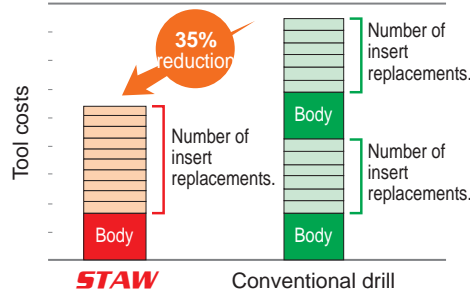
■ Radial runout of insert



■ Durable inserts and body reduces costs.

■ Cost reduction effect

Tool cost comparison for 1969 ft length of machining



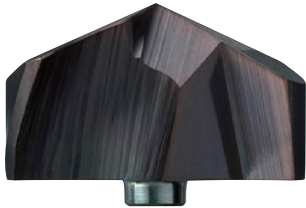
<Cutting conditions>

Work piece : AISI 1050 (150-180HB)
 Drill diameter : $\phi 10$ (L/D=5)
 Cutting speed : 330 SFM
 Feed : .010 IPR
 Coolant : W.S.O.
 Coolant pressure : 75 PSI (Internal coolant)
 Machine : Machining center

Insert grade

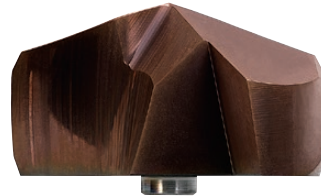
VP15TF Insert grade for general purpose

Suitable for machining a wide range of work piece materials from mild and alloy steels through stainless steels and cast iron.



DP5010 Insert grade for cast iron

A new PVD coated grade for cast iron. Cemented carbide substrate coated using a proprietary method of crystal control technology.



Operational Guidance

Insert Installation

- Before inserting the insert into the holder, ensure that there are no foreign objects or dirt in the holder slot or slit. Clean using compressed air if necessary.
- Use the wrench provided to loosen the inner screw to open the tip of the holder, then place the insert into the holder slot as shown in figure 1.
 - *Ensure that the wrench is firmly in contact with the base of the inner screw head when tightening.
- After the insert has been set in the holder slot, tighten the inner screw while pushing the insert lightly into the pocket as shown in figure 2 to securely clamp and locate the insert.
 - *Ensure that the wrench is firmly in contact with the base of the inner screw head when tightening.

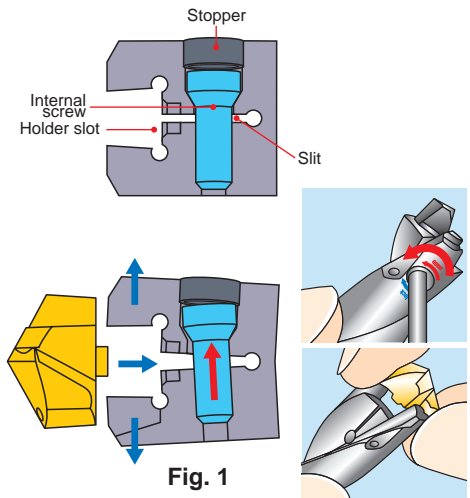


Fig. 1

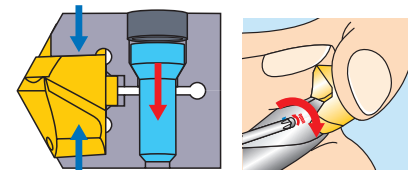
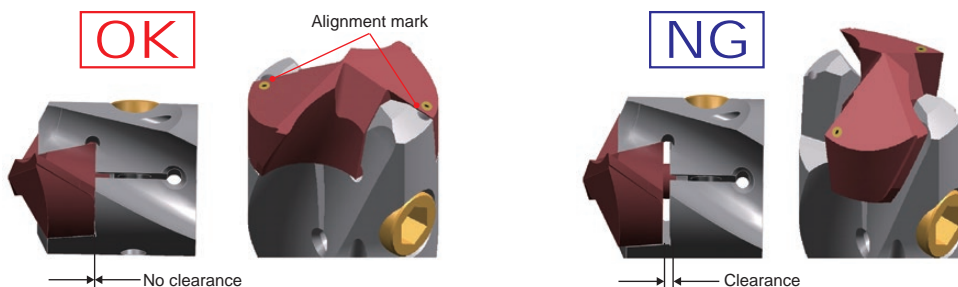


Fig. 2

Tighten clamp screws referring to the table for torque.

Drill Diameter	Clamping Force	
	lbf-in	N · m
.3906" – .4844" 10mm – 12.5mm	8.9	1
.5000" – .5781" 13mm – 15mm	17.7	2
.5938" – .7188" 16mm – 18mm	22.1	2.5

- Check that there is no gap between the bottom of the insert and holder slot.



(Note) Poor or incorrect clamping of inserts can cause poor drilling performance and/or drill breakage. Therefore ensure that the alignment marks on both the body and insert are aligned when setting. When machining, use safety guards and goggles.

INDEXABLE TYPE DRILL

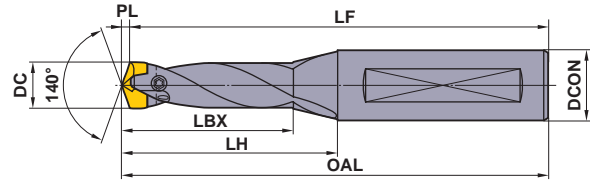
STAW

- Wavy cutting edge design for good chip control.
- Highly rigid clamping system offers stability and reliability for small hole drilling.



DC=.3906"	.3906"<DC<.7188"
0	0
-.00087"	-.00106"

INCH STANDARD




HOLDERS

DC (inch)	Hole Depth (l/d)	Holder		Dimensions (inch)						Wrench	Insert		
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		Order Number	Stock	
											VP15TF	DP5010	
.3906	1.5	STAWSS0026	●	.937	1.33	3.22	3.15	.071	.625	TIP06F	STAWN0025TH	●	
											STAWK0025TG		●
	3	STAWSN0026	●	1.531	1.92	3.81	3.74	.071	.625	TIP06F	STAWN0025TH	●	
											STAWK0025TG		●
	5	STAWMN0026	●	2.311	2.71	4.60	4.53	.071	.625	TIP06F	STAWN0025TH	●	
											STAWK0025TG		●
	8	STAWLN0026	●	3.501	3.89	5.78	5.71	.071	.625	TIP06F	STAWN0025TH	●	
											STAWK0025TG		●
.4062	1.5	STAWSS0026	●	.940	1.33	3.22	3.15	.074	.625	TIP06F	STAWN0026TH	●	
											STAWK0026TG		●
	3	STAWSN0026	●	1.534	1.92	3.81	3.74	.074	.625	TIP06F	STAWN0026TH	●	
											STAWK0026TG		●
	5	STAWMN0026	●	2.314	2.71	4.60	4.53	.074	.625	TIP06F	STAWN0026TH	●	
											STAWK0026TG		●
	8	STAWLN0026	●	3.504	3.89	5.78	5.71	.074	.625	TIP06F	STAWN0026TH	●	
											STAWK0026TG		●
.4219	1.5	STAWSS0027	●	.943	1.34	3.23	3.15	.077	.625	TIP06F	STAWN0027TH	●	
											STAWK0027TG		●
	3	STAWSN0027	●	1.537	1.93	3.82	3.74	.077	.625	TIP06F	STAWN0027TH	●	
											STAWK0027TG		●
	5	STAWMN0027	●	2.317	2.72	4.61	4.53	.077	.625	TIP06F	STAWN0027TH	●	
											STAWK0027TG		●
	8	STAWLN0027	●	3.507	3.90	5.79	5.71	.077	.625	TIP06F	STAWN0027TH	●	
											STAWK0027TG		●
.4375	1.5	STAWSS0028	●	1.064	1.50	3.39	3.31	.080	.625	TIP06F	STAWN0028TH	●	
											STAWK0028TG		●
	3	STAWSN0028	●	1.690	2.13	4.02	3.94	.080	.625	TIP06F	STAWN0028TH	●	
											STAWK0028TG		●
	5	STAWMN0028	●	2.680	3.11	5.00	4.92	.080	.625	TIP06F	STAWN0028TH	●	
											STAWK0028TG		●
	8	STAWLN0028	●	3.860	4.29	6.18	6.10	.080	.625	TIP06F	STAWN0028TH	●	
											STAWK0028TG		●
.4531	1.5	STAWSS0030	●	1.067	1.50	3.39	3.31	.083	.625	TIP06F	STAWN0029TH	●	
											STAWK0029TG		●
	3	STAWSN0030	●	1.693	2.13	4.02	3.94	.083	.625	TIP06F	STAWN0029TH	●	
											STAWK0029TG		●
	5	STAWMN0030	●	2.683	3.11	5.00	4.92	.083	.625	TIP06F	STAWN0029TH	●	
											STAWK0029TG		●
	8	STAWLN0030	●	3.863	4.29	6.18	6.10	.083	.625	TIP06F	STAWN0029TH	●	
											STAWK0029TG		●
.4688	1.5	STAWSS0030	●	1.069	1.51	3.40	3.31	.085	.625	TIP06F	STAWN0030TH	●	
											STAWK0030TG		●
	3	STAWSN0030	●	1.695	2.14	4.03	3.94	.085	.625	TIP06F	STAWN0030TH	●	
											STAWK0030TG		●
	5	STAWMN0030	●	2.685	3.12	5.01	4.92	.085	.625	TIP06F	STAWN0030TH	●	
											STAWK0030TG		●
	8	STAWLN0030	●	3.865	4.30	6.19	6.10	.085	.625	TIP06F	STAWN0030TH	●	
											STAWK0030TG		●


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 The LF, LH, and LBX dimensions listed in the table above, are measured using the VP15TF insert.
 When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

● : Inventory maintained.

DC (inch)	Hole Depth (l/d)	Holder		Dimensions (inch)							Insert		
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		Wrench	Order Number	Stock
										VP15TF			DP5010
.4844	1.5	STAWSS0031	●	1.148	1.63	3.52	3.43	.088	.625	TIP06F	STAWN0031TH	●	●
											STAWK0031TG	●	●
	3	STAWSN0031	●	1.858	2.33	4.22	4.13	.088	.625	TIP06F	STAWN0031TH	●	●
											STAWK0031TG	●	●
	5	STAWMN0031	●	2.848	3.32	5.21	5.12	.088	.625	TIP06F	STAWN0031TH	●	●
											STAWK0031TG	●	●
	8	STAWLN0031	●	4.218	4.70	6.59	6.50	.088	.625	TIP06F	STAWN0031TH	●	●
											STAWK0031TG	●	●
.5000	1.5	STAWSS0032	●	1.151	1.63	3.52	3.43	.091	.625	TIP06F	STAWN0032TH	●	●
											STAWK0032TG	●	●
	3	STAWSN0032	●	1.861	2.33	4.22	4.13	.091	.625	TIP06F	STAWN0032TH	●	●
											STAWK0032TG	●	●
	5	STAWMN0032	●	2.851	3.32	5.21	5.12	.091	.625	TIP06F	STAWN0032TH	●	●
											STAWK0032TG	●	●
	8	STAWLN0032	●	4.221	4.70	6.59	6.50	.091	.625	TIP06F	STAWN0032TH	●	●
											STAWK0032TG	●	●
.5156	1.5	STAWSS0034	●	1.274	1.79	3.67	3.58	.094	.625	TIP08W	STAWN0033TH	●	●
											STAWK0033TG	●	●
	3	STAWSN0034	●	2.024	2.53	4.42	4.33	.094	.625	TIP08W	STAWN0033TH	●	●
											STAWK0033TG	●	●
	5	STAWMN0034	●	3.004	3.52	5.40	5.31	.094	.625	TIP08W	STAWN0033TH	●	●
											STAWK0033TG	●	●
	8	STAWLN0034	●	4.584	5.09	6.98	6.89	.094	.625	TIP08W	STAWN0033TH	●	●
											STAWK0033TG	●	●
.5312	1.5	STAWSS0034	●	1.277	1.80	3.68	3.58	.097	.625	TIP08W	STAWN0034TH	●	●
											STAWK0034TG	●	●
	3	STAWSN0034	●	2.027	2.54	4.43	4.33	.097	.625	TIP08W	STAWN0034TH	●	●
											STAWK0034TG	●	●
	5	STAWMN0034	●	3.007	3.53	5.41	5.31	.097	.625	TIP08W	STAWN0034TH	●	●
											STAWK0034TG	●	●
	8	STAWLN0034	●	4.587	5.10	6.99	6.89	.097	.625	TIP08W	STAWN0034TH	●	●
											STAWK0034TG	●	●
.5469	1.5	STAWSS0035	●	1.280	1.80	3.68	3.58	.100	.625	TIP08W	STAWN0035TH	●	●
											STAWK0035TG	●	●
	3	STAWSN0035	●	2.030	2.54	4.43	4.33	.100	.625	TIP08W	STAWN0035TH	●	●
											STAWK0035TG	●	●
	5	STAWMN0035	●	3.010	3.53	5.41	5.31	.100	.625	TIP08W	STAWN0035TH	●	●
											STAWK0035TG	●	●
	8	STAWLN0035	●	4.590	5.10	6.99	6.89	.100	.625	TIP08W	STAWN0035TH	●	●
											STAWK0035TG	●	●
.5625	1.5	STAWSS0036	●	1.322	1.87	3.76	3.66	.102	.625	TIP08W	STAWN0036TH	●	●
											STAWK0036TG	●	●
	3	STAWSN0036	●	2.192	2.74	4.63	4.53	.102	.625	TIP08W	STAWN0036TH	●	●
											STAWK0036TG	●	●
	5	STAWMN0036	●	3.372	3.92	5.81	5.71	.102	.625	TIP08W	STAWN0036TH	●	●
											STAWK0036TG	●	●
	8	STAWLN0036	●	4.902	5.49	7.38	7.28	.102	.625	TIP08W	STAWN0036TH	●	●
											STAWK0036TG	●	●
.5781	1.5	STAWSS0037	●	1.325	1.88	3.77	3.66	.105	.625	TIP08W	STAWN0037TH	●	●
											STAWK0037TG	●	●
	3	STAWSN0037	●	2.195	2.75	4.64	4.53	.105	.625	TIP08W	STAWN0037TH	●	●
											STAWK0037TG	●	●
	5	STAWMN0037	●	3.375	3.93	5.82	5.71	.105	.625	TIP08W	STAWN0037TH	●	●
											STAWK0037TG	●	●
	8	STAWLN0037	●	4.905	5.50	7.39	7.28	.105	.625	TIP08W	STAWN0037TH	●	●
											STAWK0037TG	●	●


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When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

STAW

DC (inch)	Hole Depth (l/d)	Holder		Dimensions (inch)							Insert		
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		Wrench	Order Number	Stock
										VP15TF			DP5010
.5938	1.5	STAWSS0039	●	1.408	2.00	3.97	3.86	.108	.750	TIP08W	STAWN0038TH	●	
											STAWK0038TG		●
	3	STAWSN0039	●	2.468	3.06	5.03	4.92	.108	.750	TIP08W	STAWN0038TH	●	
											STAWK0038TG		●
	5	STAWMN0039	●	3.648	4.24	6.21	6.10	.108	.750	TIP08W	STAWN0038TH	●	
											STAWK0038TG		●
	8	STAWLN0039	●	5.228	5.94	7.91	7.80	.108	.750	TIP08W	STAWN0038TH	●	
											STAWK0038TG		●
.6094	1.5	STAWSS0039	●	1.411	2.00	3.97	3.86	.111	.750	TIP08W	STAWN0039TH	●	
											STAWK0039TG		●
	3	STAWSN0039	●	2.471	3.06	5.03	4.92	.111	.750	TIP08W	STAWN0039TH	●	
											STAWK0039TG		●
	5	STAWMN0039	●	3.651	4.24	6.21	6.10	.111	.750	TIP08W	STAWN0039TH	●	
											STAWK0039TG		●
	8	STAWLN0039	●	5.231	5.94	7.91	7.80	.111	.750	TIP08W	STAWN0039TH	●	
											STAWK0039TG		●
.6250	1.5	STAWSS0041	●	1.454	2.08	4.05	3.94	.114	.750	TIP10W	STAWN0040TH	●	
											STAWK0040TG		●
	3	STAWSN0041	●	2.474	3.26	5.23	5.12	.114	.750	TIP10W	STAWN0040TH	●	
											STAWK0040TG		●
	5	STAWMN0041	●	3.654	4.64	6.61	6.50	.114	.750	TIP10W	STAWN0040TH	●	
											STAWK0040TG		●
	8	STAWLN0041	●	5.544	6.33	8.30	8.19	.114	.750	TIP10W	STAWN0040TH	●	
											STAWK0040TG		●
.6406	1.5	STAWSS0041	●	1.457	2.09	4.06	3.94	.117	.750	TIP10W	STAWN0041TH	●	
											STAWK0041TG		●
	3	STAWSN0041	●	2.477	3.27	5.24	5.12	.117	.750	TIP10W	STAWN0041TH	●	
											STAWK0041TG		●
	5	STAWMN0041	●	3.657	4.65	6.62	6.50	.117	.750	TIP10W	STAWN0041TH	●	
											STAWK0041TG		●
	8	STAWLN0041	●	5.547	6.34	8.31	8.19	.117	.750	TIP10W	STAWN0041TH	●	
											STAWK0041TG		●
.6563	1.5	STAWSS0044	●	1.539	2.21	4.18	4.06	.119	.750	TIP10W	STAWN0042TH	●	
											STAWK0042TG		●
	3	STAWSN0044	●	2.519	3.47	5.43	5.31	.119	.750	TIP10W	STAWN0042TH	●	
											STAWK0042TG		●
	5	STAWMN0044	●	3.859	4.84	6.81	6.69	.119	.750	TIP10W	STAWN0042TH	●	
											STAWK0042TG		●
	8	STAWLN0044	●	5.859	6.66	8.62	8.50	.119	.750	TIP10W	STAWN0042TH	●	
											STAWK0042TG		●
.6719	1.5	STAWSS0044	●	1.542	2.21	4.18	4.06	.122	.750	TIP10W	STAWN0043TH	●	
											STAWK0043TG		●
	3	STAWSN0044	●	2.522	3.47	5.43	5.31	.122	.750	TIP10W	STAWN0043TH	●	
											STAWK0043TG		●
	5	STAWMN0044	●	3.862	4.84	6.81	6.69	.122	.750	TIP10W	STAWN0043TH	●	
											STAWK0043TG		●
	8	STAWLN0044	●	5.862	6.66	8.62	8.50	.122	.750	TIP10W	STAWN0043TH	●	
											STAWK0043TG		●
.6875	1.5	STAWSS0044	●	1.545	2.22	4.19	4.06	.125	.750	TIP10W	STAWN0044TH	●	
											STAWK0044TG		●
	3	STAWSN0044	●	2.525	3.48	5.44	5.31	.125	.750	TIP10W	STAWN0044TH	●	
											STAWK0044TG		●
	5	STAWMN0044	●	3.865	4.85	6.82	6.69	.125	.750	TIP10W	STAWN0044TH	●	
											STAWK0044TG		●
	8	STAWLN0044	●	5.865	6.67	8.63	8.50	.125	.750	TIP10W	STAWN0044TH	●	
											STAWK0044TG		●

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DC (inch)	Hole Depth (l/d)	Holder		Dimensions (inch)							Insert		
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		Order Number	Stock	
										Wrench		VP15TF	DP5010
.7031	1.5	STAWSS0046	●	1.588	2.30	4.26	4.13	.128	.750	TIP10W	STAWN0045TH	●	
											STAWK0045TG		●
	3	STAWSN0046	●	2.648	3.67	5.64	5.51	.128	.750	TIP10W	STAWN0045TH	●	
											STAWK0045TG		●
	5	STAWMN0046	●	4.068	5.05	7.02	6.89	.128	.750	TIP10W	STAWN0045TH	●	
											STAWK0045TG		●
	8	STAWLN0046	●	6.188	6.98	8.95	8.82	.128	.750	TIP10W	STAWN0045TH	●	
											STAWK0045TG		●
.7188	1.5	STAWSS0046	●	1.591	2.30	4.26	4.13	.131	.750	TIP10W	STAWN0046TH	●	
											STAWK0046TG		●
	3	STAWSN0046	●	2.651	3.67	5.64	5.51	.131	.750	TIP10W	STAWN0046TH	●	
											STAWK0046TG		●
	5	STAWMN0046	●	4.071	5.05	7.02	6.89	.131	.750	TIP10W	STAWN0046TH	●	
											STAWK0046TG		●
	8	STAWLN0046	●	6.191	6.98	8.95	8.82	.131	.750	TIP10W	STAWN0046TH	●	
											STAWK0046TG		●

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
The LF, LH, and LBX dimensions listed in the table above, are measured using the VP15TF insert.
When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

INDEXABLE TYPE DRILL

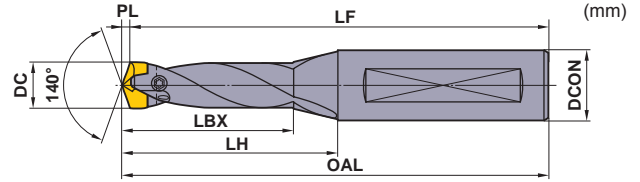
STAW

- Wavy cutting edge design for good chip control.
- Highly rigid clamping system offers stability and reliability for small hole drilling.



DC=10	10<DC<18.4
0	0
-0.022	-0.027

METRIC STANDARD



HOLDERS

DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)						Wrench	Insert			
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		DC (mm)	Order Number	Stock	
												VP15TF	DP5010	
10.0 10.4	1.5	STAWSS1000S16	★	23.8	33.8	81.8	80	1.8	16	TIP06F	10.0	STAWN1000TH STAWK1000TG	★	★
	3	STAWSN1000S16	★	38.8	48.8	96.8	95	1.8	16	TIP06F	10.1	STAWN1010TH STAWK1010TG	★	★
	5	STAWMN1000S16	★	58.9	68.9	116.9	115	1.9	16	TIP06F	10.2	STAWN1020TH STAWK1020TG	★	★
	8	STAWLN1000S16	★	88.9	98.9	146.9	145	1.9	16	TIP06F	10.3	STAWN1030TH STAWK1030TG	★	★
10.5 10.9	1.5	STAWSS1050S16	★	23.9	33.9	81.9	80	1.9	16	TIP06F	10.5	STAWN1050TH STAWK1050TG	★	★
	3	STAWSN1050S16	★	38.9	48.9	96.9	95	1.9	16	TIP06F	10.6	STAWN1060TH STAWK1060TG	★	★
	5	STAWMN1050S16	★	59.0	69.0	117.0	115	2.0	16	TIP06F	10.7	STAWN1070TH STAWK1070TG	★	★
	8	STAWLN1050S16	★	89.0	99.0	147.0	145	2.0	16	TIP06F	10.8	STAWN1080TH STAWK1080TG	★	★
11.0 11.4	1.5	STAWSS1100S16	★	27.0	38.0	86.0	84	2.0	16	TIP06F	11.0	STAWN1100TH STAWK1100TG	★	★
	3	STAWSN1100S16	★	43.0	54.0	102.0	100	2.0	16	TIP06F	11.1	STAWN1110TH STAWK1110TG	★	★
	5	STAWMN1100S16	★	68.1	79.1	127.1	125	2.1	16	TIP06F	11.2	STAWN1120TH STAWK1120TG	★	★
	8	STAWLN1100S16	★	98.1	109.1	157.1	155	2.1	16	TIP06F	11.3	STAWN1130TH STAWK1130TG	★	★
11.5 11.9	1.5	STAWSS1150S16	★	27.1	38.1	86.1	84	2.1	16	TIP06F	11.5	STAWN1150TH STAWK1150TG	★	★
	3	STAWSN1150S16	★	43.1	54.1	102.1	100	2.1	16	TIP06F	11.6	STAWN1160TH STAWK1160TG	★	★
	5	STAWMN1150S16	★	68.1	79.1	127.1	125	2.1	16	TIP06F	11.7	STAWN1170TH STAWK1170TG	★	★
	8	STAWLN1150S16	★	98.2	109.2	157.2	155	2.2	16	TIP06F	11.8	STAWN1180TH STAWK1180TG	★	★
12.0 12.4	1.5	STAWSS1200S16	★	29.2	41.2	89.2	87	2.2	16	TIP06F	12.0	STAWN1200TH STAWK1200TG	★	★
	3	STAWSN1200S16	★	47.2	59.2	107.2	105	2.2	16	TIP06F	12.1	STAWN1210TH STAWK1210TG	★	★
	5	STAWMN1200S16	★	72.2	84.2	132.2	130	2.2	16	TIP06F	12.2	STAWN1220TH STAWK1220TG	★	★
	8	STAWLN1200S16	★	107.3	119.3	167.3	165	2.3	16	TIP06F	12.3	STAWN1230TH STAWK1230TG	★	★
											12.4	STAWN1240TH STAWK1240TG	★	★

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
 The LF, LH, and LBX dimensions listed in the table above, are measured using the VP15TF insert.
 When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.


★ : Inventory maintained in Japan.

DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)						① ② Wrench	Insert		
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		DC (mm)	Order Number	Stock VP15TF DP5010
12.5 12.9	1.5	STAWSS1250S16	★	29.3	41.3	89.3	87	2.3	16	①TIP06F	12.5	STAWN1250TH STAWK1250TG	★ ★
	3	STAWSN1250S16	★	47.3	59.3	107.3	105	2.3	16	①TIP06F	12.6	STAWN1260TH STAWK1260TG	★ ★
	5	STAWMN1250S16	★	72.3	84.3	132.3	130	2.3	16	①TIP06F	12.7	STAWN1270TH STAWK1270TG	★ ★
	8	STAWLN1250S16	★	107.3	119.3	167.3	165	2.3	16	①TIP06F	12.8	STAWN1280TH STAWK1280TG	★ ★
											12.9	STAWN1290TH STAWK1290TG	★ ★
											13.0	STAWN1300TH STAWK1300TG	★ ★
											13.1	STAWN1310TH STAWK1310TG	★ ★
	13.0 13.4	1.5	STAWSS1300S16	★	32.4	45.4	93.4	91	2.4	16	②TIP08W	13.0	STAWN1320TH STAWK1320TG
3		STAWSN1300S16	★	51.4	64.4	112.4	110	2.4	16	②TIP08W	13.1	STAWN1330TH STAWK1330TG	★ ★
5		STAWMN1300S16	★	76.4	89.4	137.4	135	2.4	16	②TIP08W	13.2	STAWN1340TH STAWK1340TG	★ ★
8		STAWLN1300S16	★	116.4	129.4	177.4	175	2.4	16	②TIP08W	13.3	STAWN1350TH STAWK1350TG	★ ★
											13.4	STAWN1360TH STAWK1360TG	★ ★
											13.5	STAWN1370TH STAWK1370TG	★ ★
											13.6	STAWN1380TH STAWK1380TG	★ ★
13.5 13.9		1.5	STAWSS1350S16	★	32.5	45.5	93.5	91	2.5	16	②TIP08W	13.7	STAWN1390TH STAWK1390TG
	3	STAWSN1350S16	★	51.5	64.5	112.5	110	2.5	16	②TIP08W	13.8	STAWN1400TH STAWK1400TG	★ ★
	5	STAWMN1350S16	★	76.5	89.5	137.5	135	2.5	16	②TIP08W	13.9	STAWN1410TH STAWK1410TG	★ ★
	8	STAWLN1350S16	★	116.5	129.5	177.5	175	2.5	16	②TIP08W	14.0	STAWN1420TH STAWK1420TG	★ ★
											14.1	STAWN1430TH STAWK1430TG	★ ★
											14.2	STAWN1440TH STAWK1440TG	★ ★
											14.3	STAWN1450TH STAWK1450TG	★ ★
	14.0 14.4	1.5	STAWSS1400S16	★	33.5	47.5	95.5	93	2.5	16	②TIP08W	14.4	STAWN1460TH STAWK1460TG
3		STAWSN1400S16	★	55.6	69.6	117.6	115	2.6	16	②TIP08W	14.5	STAWN1470TH STAWK1470TG	★ ★
5		STAWMN1400S16	★	85.6	99.6	147.6	145	2.6	16	②TIP08W	14.6	STAWN1480TH STAWK1480TG	★ ★
8		STAWLN1400S16	★	124.6	139.6	187.6	185	2.6	16	②TIP08W	14.7	STAWN1490TH STAWK1490TG	★ ★
											14.8	STAWN1500TH STAWK1500TG	★ ★
											14.9	STAWN1510TH STAWK1510TG	★ ★
											15.0	STAWN1520TH STAWK1520TG	★ ★
14.5 14.9		1.5	STAWSS1450S16	★	33.6	47.6	95.6	93	2.6	16	②TIP08W	15.0	STAWN1530TH STAWK1530TG
	3	STAWSN1450S16	★	55.7	69.7	117.7	115	2.7	16	②TIP08W	15.1	STAWN1540TH STAWK1540TG	★ ★
	5	STAWMN1450S16	★	85.7	99.7	147.7	145	2.7	16	②TIP08W	15.2	STAWN1550TH STAWK1550TG	★ ★
	8	STAWLN1450S16	★	124.7	139.7	187.7	185	2.7	16	②TIP08W	15.3	STAWN1560TH STAWK1560TG	★ ★
											15.4	STAWN1570TH STAWK1570TG	★ ★
											15.5	STAWN1580TH STAWK1580TG	★ ★
											15.6	STAWN1590TH STAWK1590TG	★ ★
	15.0 15.4	1.5	STAWSS1500S20	★	35.7	50.7	100.7	98	2.7	20	②TIP08W	15.7	STAWN1600TH STAWK1600TG
3		STAWSN1500S20	★	62.7	77.7	127.7	125	2.7	20	②TIP08W	15.8	STAWN1610TH STAWK1610TG	★ ★
5		STAWMN1500S20	★	92.8	107.8	157.8	155	2.8	20	②TIP08W	15.9	STAWN1620TH STAWK1620TG	★ ★
8		STAWLN1500S20	★	132.8	150.8	200.8	198	2.8	20	②TIP08W	16.0	STAWN1630TH STAWK1630TG	★ ★
											16.1	STAWN1640TH STAWK1640TG	★ ★
											16.2	STAWN1650TH STAWK1650TG	★ ★
											16.3	STAWN1660TH STAWK1660TG	★ ★

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STAW

DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)						Wrench 	Insert			
		Order Number	Stock	LBX	LH	OAL	LF	PL	DCON		DC (mm)	Order Number	Stock	
													VP15TF	DP5010
15.5 16.4	1.5	STAWSS1600S20	★	36.8	52.8	102.8	100	2.8	20	TIP10W	15.5	STAWN1550T	★	
												STAWK1550TG		★
											15.6	STAWN1560T	★	
	3	STAWSN1600S20	★	62.9	82.9	132.9	130	2.9	20	TIP10W	15.7	STAWK1560TG		★
												STAWN1570T	★	
												STAWK1570TG		★
	5	STAWMN1600S20	★	92.9	117.9	167.9	165	2.9	20	TIP10W	15.8	STAWN1580T	★	
												STAWK1580TG		★
											15.9	STAWN1590T	★	
	8	STAWLN1600S20	★	140.9	160.9	210.9	208	2.9	20	TIP10W	16.0	STAWK1590TG		★
												STAWN1600T	★	
												STAWK1600TG		★
16.1											STAWN1610T	★		
											STAWK1610TG		★	
										16.2	STAWN1620T	★		
											STAWK1620TG		★	
											16.3	STAWN1630T	★	
											STAWK1630TG		★	
											16.4	STAWN1640T	★	
											STAWK1640TG		★	
16.5 17.4	1.5	STAWSS1700S20	★	39.0	56.0	106.0	103	3.0	20	TIP10W	16.5	STAWN1650T	★	
												STAWK1650TG		★
											16.6	STAWN1660T	★	
	3	STAWSN1700S20	★	64.0	88.0	138.0	135	3.0	20	TIP10W	16.7	STAWK1660TG		★
												STAWN1670T	★	
												STAWK1670TG		★
	5	STAWMN1700S20	★	98.1	123.1	173.1	170	3.1	20	TIP10W	16.8	STAWN1680T	★	
												STAWK1680TG		★
											16.9	STAWN1690T	★	
	8	STAWLN1700S20	★	149.1	169.1	219.1	216	3.1	20	TIP10W	17.0	STAWK1690TG		★
												STAWN1700T	★	
												STAWK1700TG		★
17.1											STAWN1710T	★		
											STAWK1710TG		★	
										17.2	STAWN1720T	★		
											STAWK1720TG		★	
											17.3	STAWN1730T	★	
											STAWK1730TG		★	
											17.4	STAWN1740T	★	
											STAWK1740TG		★	
17.5 18.4	1.5	STAWSS1800S20	★	40.2	58.2	108.2	105	3.2	20	TIP10W	17.5	STAWN1750T	★	
												STAWK1750TG		★
											17.6	STAWN1760T	★	
	3	STAWSN1800S20	★	67.2	93.2	143.2	140	3.2	20	TIP10W	17.7	STAWK1760TG		★
												STAWN1770T	★	
												STAWK1770TG		★
	5	STAWMN1800S20	★	103.3	128.3	178.3	175	3.3	20	TIP10W	17.8	STAWN1780T	★	
												STAWK1780TG		★
											17.9	STAWN1790T	★	
	8	STAWLN1800S20	★	157.3	177.3	227.3	224	3.3	20	TIP10W	18.0	STAWK1790TG		★
												STAWN1800T	★	
												STAWK1800TG		★
18.1											STAWN1810T	★		
											STAWK1810TG		★	
										18.2	STAWN1820T	★		
											STAWK1820TG		★	
											18.3	STAWN1830T	★	
											STAWK1830TG		★	
											18.4	STAWN1840T	★	
											STAWK1840TG		★	

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 When using the DP5010 insert, the LF, LH, and LBX dimensions will be slightly reduced.

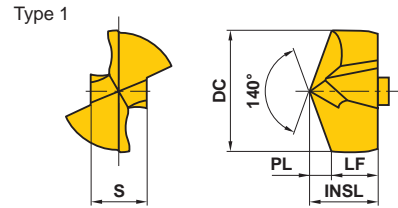
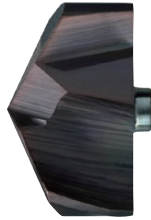
★ : Inventory maintained in Japan.

Memo

A series of horizontal dotted lines for writing.

STAW

INSERTS INCH STANDARD



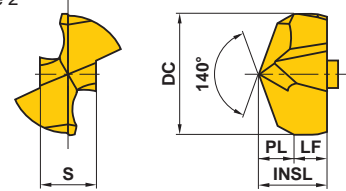
For General Use

Order Number	Stock		Dimensions (inch)			Type	Applicable Holder	
	VP15TF	DF5010	DC	LF	S		inch	metric
STAWN0025TH	●		.3906	.150	.181	1	STAW○○0026	STAW○○1000S16
STAWN0026TH	●		.4062	.150	.181	1	STAW○○0026	STAW○○1000S16
STAWN0027TH	●		.4219	.157	.190	1	STAW○○0027	STAW○○1050S16
STAWN0028TH	●		.4375	.165	.199	1	STAW○○0028	STAW○○1100S16
STAWN0029TH	●		.4531	.172	.208	1	STAW○○0030	STAW○○1150S16
STAWN0030TH	●		.4688	.172	.208	1	STAW○○0030	STAW○○1150S16
STAWN0031TH	●		.4844	.180	.217	1	STAW○○0031	STAW○○1200S16
STAWN0032TH	●		.5000	.187	.226	1	STAW○○0032	STAW○○1250S16
STAWN0033TH	●		.5156	.194	.235	1	STAW○○0034	STAW○○1300S16
STAWN0034TH	●		.5312	.194	.235	1	STAW○○0034	STAW○○1300S16
STAWN0035TH	●		.5469	.202	.244	1	STAW○○0035	STAW○○1350S16
STAWN0036TH	●		.5625	.209	.254	1	STAW○○0036	STAW○○1400S16
STAWN0037TH	●		.5781	.217	.263	1	STAW○○0037	STAW○○1450S16
STAWN0038TH	●		.5938	.224	.272	1	STAW○○0039	STAW○○1500S20
STAWN0039TH	●		.6094	.224	.272	1	STAW○○0039	STAW○○1500S20
STAWN0040T	●		.6250	.232	.281	1	STAW○○0041	STAW○○1600S20
STAWN0041T	●		.6406	.232	.281	1	STAW○○0041	STAW○○1600S20
STAWN0042T	●		.6563	.247	.299	1	STAW○○0044	STAW○○1700S20
STAWN0043T	●		.6719	.247	.299	1	STAW○○0044	STAW○○1700S20
STAWN0044T	●		.6875	.247	.299	1	STAW○○0044	STAW○○1700S20
STAWN0045T	●		.7031	.262	.317	1	STAW○○0046	STAW○○1800S20
STAWN0046T	●		.7188	.262	.317	1	STAW○○0046	STAW○○1800S20

● : Inventory maintained.
<One insert in one case>



Type 2



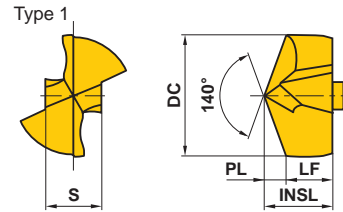
For Cast Iron

Order Number	Stock		Dimensions (inch)			Type	Applicable Holder	
	VP15TF	DF5010	DC	LF	S		inch	metric
STAWK0025TG		●	.3906	.129	.181	2	STAW000026	STAW001000S16
STAWK0026TG		●	.4062	.129	.181	2	STAW000026	STAW001000S16
STAWK0027TG		●	.4219	.137	.190	2	STAW000027	STAW001050S16
STAWK0028TG		●	.4375	.144	.199	2	STAW000028	STAW001100S16
STAWK0029TG		●	.4531	.153	.208	2	STAW000030	STAW001150S16
STAWK0030TG		●	.4688	.153	.208	2	STAW000030	STAW001150S16
STAWK0031TG		●	.4844	.159	.217	2	STAW000031	STAW001200S16
STAWK0032TG		●	.5000	.167	.226	2	STAW000032	STAW001250S16
STAWK0033TG		●	.5156	.174	.235	2	STAW000034	STAW001300S16
STAWK0034TG		●	.5312	.174	.235	2	STAW000034	STAW001300S16
STAWK0035TG		●	.5469	.182	.244	2	STAW000035	STAW001350S16
STAWK0036TG		●	.5625	.189	.254	2	STAW000036	STAW001400S16
STAWK0037TG		●	.5781	.196	.263	2	STAW000037	STAW001450S16
STAWK0038TG		●	.5938	.204	.272	2	STAW000039	STAW001500S20
STAWK0039TG		●	.6094	.204	.272	2	STAW000039	STAW001500S20
STAWK0040TG		●	.6250	.207	.281	2	STAW000041	STAW001600S20
STAWK0041TG		●	.6406	.207	.281	2	STAW000041	STAW001600S20
STAWK0042TG		●	.6563	.222	.299	2	STAW000044	STAW001700S20
STAWK0043TG		●	.6719	.222	.299	2	STAW000044	STAW001700S20
STAWK0044TG		●	.6875	.222	.299	2	STAW000044	STAW001700S20
STAWK0045TG		●	.7031	.237	.317	2	STAW000046	STAW001800S20
STAWK0046TG		●	.7188	.237	.317	2	STAW000046	STAW001800S20

STAW

INSERTS

METRIC STANDARD

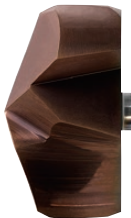


■ For General Use

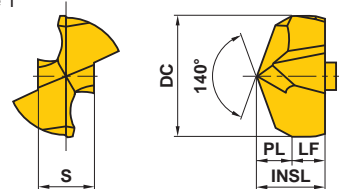
Order Number	Stock		Dimensions (mm)			Type	Applicable Holder	
	VP15TF	DP5010	DC	LF	S		inch	metric
STAWN1000TH	●		10.0	3.8	4.6	1	STAW○○0026	STAW○○1000S16
STAWN1010TH	●		10.1	3.8	4.6	1	STAW○○0026	STAW○○1000S16
STAWN1020TH	●		10.2	3.8	4.6	1	STAW○○0026	STAW○○1000S16
STAWN1030TH	●		10.3	3.8	4.6	1	STAW○○0026	STAW○○1000S16
STAWN1040TH	●		10.4	3.8	4.6	1	STAW○○0026	STAW○○1000S16
STAWN1050TH	●		10.5	4.0	4.8	1	STAW○○0027	STAW○○1050S16
STAWN1060TH	●		10.6	4.0	4.8	1	STAW○○0027	STAW○○1050S16
STAWN1070TH	●		10.7	4.0	4.8	1	STAW○○0027	STAW○○1050S16
STAWN1080TH	●		10.8	4.0	4.8	1	STAW○○0027	STAW○○1050S16
STAWN1090TH	●		10.9	4.0	4.8	1	STAW○○0027	STAW○○1050S16
STAWN1100TH	●		11.0	4.2	5.1	1	STAW○○0028	STAW○○1100S16
STAWN1110TH	●		11.1	4.2	5.1	1	STAW○○0028	STAW○○1100S16
STAWN1120TH	●		11.2	4.2	5.1	1	STAW○○0028	STAW○○1100S16
STAWN1130TH	●		11.3	4.2	5.1	1	STAW○○0028	STAW○○1100S16
STAWN1140TH	●		11.4	4.2	5.1	1	STAW○○0028	STAW○○1100S16
STAWN1150TH	●		11.5	4.4	5.3	1	STAW○○0030	STAW○○1150S16
STAWN1160TH	●		11.6	4.4	5.3	1	STAW○○0030	STAW○○1150S16
STAWN1170TH	●		11.7	4.4	5.3	1	STAW○○0030	STAW○○1150S16
STAWN1180TH	●		11.8	4.4	5.3	1	STAW○○0030	STAW○○1150S16
STAWN1190TH	●		11.9	4.4	5.3	1	STAW○○0030	STAW○○1150S16
STAWN1200TH	●		12.0	4.6	5.5	1	STAW○○0031	STAW○○1200S16
STAWN1210TH	●		12.1	4.6	5.5	1	STAW○○0031	STAW○○1200S16
STAWN1220TH	●		12.2	4.6	5.5	1	STAW○○0031	STAW○○1200S16
STAWN1230TH	●		12.3	4.6	5.5	1	STAW○○0031	STAW○○1200S16
STAWN1240TH	●		12.4	4.6	5.5	1	STAW○○0031	STAW○○1200S16
STAWN1250TH	●		12.5	4.8	5.8	1	STAW○○0032	STAW○○1250S16
STAWN1260TH	●		12.6	4.8	5.8	1	STAW○○0032	STAW○○1250S16
STAWN1270TH	●		12.7	4.8	5.8	1	STAW○○0032	STAW○○1250S16
STAWN1280TH	●		12.8	4.8	5.8	1	STAW○○0032	STAW○○1250S16
STAWN1290TH	●		12.9	4.8	5.8	1	STAW○○0032	STAW○○1250S16
STAWN1300TH	●		13.0	4.9	6.0	1	STAW○○0034	STAW○○1300S16
STAWN1310TH	●		13.1	4.9	6.0	1	STAW○○0034	STAW○○1300S16
STAWN1320TH	●		13.2	4.9	6.0	1	STAW○○0034	STAW○○1300S16
STAWN1330TH	●		13.3	4.9	6.0	1	STAW○○0034	STAW○○1300S16
STAWN1340TH	●		13.4	4.9	6.0	1	STAW○○0034	STAW○○1300S16
STAWN1350TH	●		13.5	5.1	6.2	1	STAW○○0035	STAW○○1350S16
STAWN1360TH	●		13.6	5.1	6.2	1	STAW○○0035	STAW○○1350S16
STAWN1370TH	●		13.7	5.1	6.2	1	STAW○○0035	STAW○○1350S16

● : Inventory maintained.
 <One insert in one case>

Order Number	Stock		Dimensions (mm)			Type	Applicable Holder	
	VP15TF	DP5010	DC	LF	S		inch	metric
STAWN1380TH	●		13.8	5.1	6.2	1	STAW○○0035	STAW○○1350S16
STAWN1390TH	●		13.9	5.1	6.2	1	STAW○○0035	STAW○○1350S16
STAWN1400TH	●		14.0	5.3	6.4	1	STAW○○0036	STAW○○1400S16
STAWN1410TH	●		14.1	5.3	6.4	1	STAW○○0036	STAW○○1400S16
STAWN1420TH	●		14.2	5.3	6.4	1	STAW○○0036	STAW○○1400S16
STAWN1430TH	●		14.3	5.3	6.4	1	STAW○○0036	STAW○○1400S16
STAWN1440TH	●		14.4	5.3	6.4	1	STAW○○0036	STAW○○1400S16
STAWN1450TH	●		14.5	5.5	6.7	1	STAW○○0037	STAW○○1450S16
STAWN1460TH	●		14.6	5.5	6.7	1	STAW○○0037	STAW○○1450S16
STAWN1470TH	●		14.7	5.5	6.7	1	STAW○○0037	STAW○○1450S16
STAWN1480TH	●		14.8	5.5	6.7	1	STAW○○0037	STAW○○1450S16
STAWN1490TH	●		14.9	5.5	6.7	1	STAW○○0037	STAW○○1450S16
STAWN1500TH	●		15.0	5.7	6.9	1	STAW○○0039	STAW○○1500S16
STAWN1510TH	●		15.1	5.7	6.9	1	STAW○○0039	STAW○○1500S16
STAWN1520TH	●		15.2	5.7	6.9	1	STAW○○0039	STAW○○1500S16
STAWN1530TH	●		15.3	5.7	6.9	1	STAW○○0039	STAW○○1500S16
STAWN1540TH	●		15.4	5.7	6.9	1	STAW○○0039	STAW○○1500S16
STAWN1550T	●		15.5	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1560T	●		15.6	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1570T	●		15.7	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1580T	●		15.8	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1590T	●		15.9	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1600T	●		16.0	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1610T	●		16.1	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1620T	●		16.2	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1630T	●		16.3	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1640T	●		16.4	5.9	7.1	1	STAW○○0041	STAW○○1600S16
STAWN1650T	●		16.5	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1660T	●		16.6	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1670T	●		16.7	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1680T	●		16.8	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1690T	●		16.9	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1700T	●		17.0	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1710T	●		17.1	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1720T	●		17.2	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1730T	●		17.3	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1740T	●		17.4	6.3	7.6	1	STAW○○0044	STAW○○1700S16
STAWN1750T	●		17.5	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1760T	●		17.6	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1770T	●		17.7	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1780T	●		17.8	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1790T	●		17.9	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1800T	●		18.0	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1810T	●		18.1	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1820T	●		18.2	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1830T	●		18.3	6.7	8.1	1	STAW○○0046	STAW○○1800S16
STAWN1840T	●		18.4	6.7	8.1	1	STAW○○0046	STAW○○1800S16

STAW**INSERTS**
METRIC STANDARD

Type 1



■ For Cast Iron

Order Number	Stock		Dimensions (mm)			Type	Applicable Holder	
	VP15TF	DP5010	DC	LF	S		inch	metric
STAWK1000TG	★		10.0	3.3	4.6	1	STAW○○0026	STAW○○1000S16
STAWK1010TG	★		10.1	3.3	4.6	1	STAW○○0026	STAW○○1000S16
STAWK1020TG	★		10.2	3.3	4.6	1	STAW○○0026	STAW○○1000S16
STAWK1030TG	★		10.3	3.3	4.6	1	STAW○○0026	STAW○○1000S16
STAWK1040TG	★		10.4	3.3	4.6	1	STAW○○0026	STAW○○1000S16
STAWK1050TG	★		10.5	3.5	4.8	1	STAW○○0027	STAW○○1050S16
STAWK1060TG	★		10.6	3.5	4.8	1	STAW○○0027	STAW○○1050S16
STAWK1070TG	★		10.7	3.5	4.8	1	STAW○○0027	STAW○○1050S16
STAWK1080TG	★		10.8	3.5	4.8	1	STAW○○0027	STAW○○1050S16
STAWK1090TG	★		10.9	3.5	4.8	1	STAW○○0027	STAW○○1050S16
STAWK1100TG	★		11.0	3.7	5.1	1	STAW○○0028	STAW○○1100S16
STAWK1110TG	★		11.1	3.7	5.1	1	STAW○○0028	STAW○○1100S16
STAWK1120TG	★		11.2	3.7	5.1	1	STAW○○0028	STAW○○1100S16
STAWK1130TG	★		11.3	3.7	5.1	1	STAW○○0028	STAW○○1100S16
STAWK1140TG	★		11.4	3.7	5.1	1	STAW○○0028	STAW○○1100S16
STAWK1150TG	★		11.5	3.9	5.3	1	STAW○○0030	STAW○○1150S16
STAWK1160TG	★		11.6	3.9	5.3	1	STAW○○0030	STAW○○1150S16
STAWK1170TG	★		11.7	3.9	5.3	1	STAW○○0030	STAW○○1150S16
STAWK1180TG	★		11.8	3.9	5.3	1	STAW○○0030	STAW○○1150S16
STAWK1190TG	★		11.9	3.9	5.3	1	STAW○○0030	STAW○○1150S16
STAWK1200TG	★		12.0	4.1	5.5	1	STAW○○0031	STAW○○1200S16
STAWK1210TG	★		12.1	4.1	5.5	1	STAW○○0031	STAW○○1200S16
STAWK1220TG	★		12.2	4.1	5.5	1	STAW○○0031	STAW○○1200S16
STAWK1230TG	★		12.3	4.1	5.5	1	STAW○○0031	STAW○○1200S16
STAWK1240TG	★		12.4	4.1	5.5	1	STAW○○0031	STAW○○1200S16
STAWK1250TG	★		12.5	4.2	5.8	1	STAW○○0032	STAW○○1250S16
STAWK1260TG	★		12.6	4.2	5.8	1	STAW○○0032	STAW○○1250S16
STAWK1270TG	★		12.7	4.2	5.8	1	STAW○○0032	STAW○○1250S16
STAWK1280TG	★		12.8	4.2	5.8	1	STAW○○0032	STAW○○1250S16
STAWK1290TG	★		12.9	4.2	5.8	1	STAW○○0032	STAW○○1250S16
STAWK1300TG	★		13.0	4.4	6.0	1	STAW○○0034	STAW○○1300S16
STAWK1310TG	★		13.1	4.4	6.0	1	STAW○○0034	STAW○○1300S16
STAWK1320TG	★		13.2	4.4	6.0	1	STAW○○0034	STAW○○1300S16
STAWK1330TG	★		13.3	4.4	6.0	1	STAW○○0034	STAW○○1300S16
STAWK1340TG	★		13.4	4.4	6.0	1	STAW○○0034	STAW○○1300S16
STAWK1350TG	★		13.5	4.6	6.2	1	STAW○○0035	STAW○○1350S16
STAWK1360TG	★		13.6	4.6	6.2	1	STAW○○0035	STAW○○1350S16
STAWK1370TG	★		13.7	4.6	6.2	1	STAW○○0035	STAW○○1350S16

★ : Inventory maintained in Japan.
<One insert in one case>

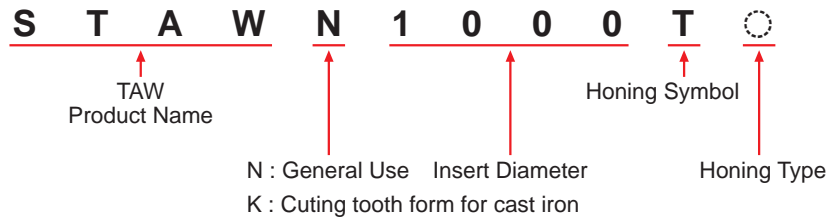
Order Number	Stock		Dimensions (mm)			Type	Applicable Holder	
	VP15TF	DP5010	DC	LF	S		inch	metric
STAWK1380TG	★		13.8	4.6	6.2	1	STAW○○0035	STAW○○1350S16
STAWK1390TG	★		13.9	4.6	6.2	1	STAW○○0035	STAW○○1350S16
STAWK1400TG	★		14.0	4.8	6.4	1	STAW○○0036	STAW○○1400S16
STAWK1410TG	★		14.1	4.8	6.4	1	STAW○○0036	STAW○○1400S16
STAWK1420TG	★		14.2	4.8	6.4	1	STAW○○0036	STAW○○1400S16
STAWK1430TG	★		14.3	4.8	6.4	1	STAW○○0036	STAW○○1400S16
STAWK1440TG	★		14.4	4.8	6.4	1	STAW○○0036	STAW○○1400S16
STAWK1450TG	★		14.5	5.0	6.7	1	STAW○○0037	STAW○○1450S16
STAWK1460TG	★		14.6	5.0	6.7	1	STAW○○0037	STAW○○1450S16
STAWK1470TG	★		14.7	5.0	6.7	1	STAW○○0037	STAW○○1450S16
STAWK1480TG	★		14.8	5.0	6.7	1	STAW○○0037	STAW○○1450S16
STAWK1490TG	★		14.9	5.0	6.7	1	STAW○○0037	STAW○○1450S16
STAWK1500TG	★		15.0	5.2	6.9	1	STAW○○0039	STAW○○1500S16
STAWK1510TG	★		15.1	5.2	6.9	1	STAW○○0039	STAW○○1500S16
STAWK1520TG	★		15.2	5.2	6.9	1	STAW○○0039	STAW○○1500S16
STAWK1530TG	★		15.3	5.2	6.9	1	STAW○○0039	STAW○○1500S16
STAWK1540TG	★		15.4	5.2	6.9	1	STAW○○0039	STAW○○1500S16
STAWK1550TG	★		15.5	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1560TG	★		15.6	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1570TG	★		15.7	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1580TG	★		15.8	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1590TG	★		15.9	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1600TG	★		16.0	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1610TG	★		16.1	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1620TG	★		16.2	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1630TG	★		16.3	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1640TG	★		16.4	5.3	7.1	1	STAW○○0041	STAW○○1600S16
STAWK1650TG	★		16.5	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1660TG	★		16.6	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1670TG	★		16.7	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1680TG	★		16.8	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1690TG	★		16.9	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1700TG	★		17.0	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1710TG	★		17.1	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1720TG	★		17.2	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1730TG	★		17.3	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1740TG	★		17.4	5.7	7.6	1	STAW○○0044	STAW○○1700S16
STAWK1750TG	★		17.5	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1760TG	★		17.6	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1770TG	★		17.7	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1780TG	★		17.8	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1790TG	★		17.9	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1800TG	★		18.0	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1810TG	★		18.1	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1820TG	★		18.2	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1830TG	★		18.3	6.0	8.1	1	STAW○○0046	STAW○○1800S16
STAWK1840TG	★		18.4	6.0	8.1	1	STAW○○0046	STAW○○1800S16

STAW

HONE WIDTH

If an insert with honing other than standard is needed, please order using the symbols below.

(Insert Order Number)



(Honing Standard)

Honing Type	Hone Width (inch)
F	0
G	.0008 — .0020
H(Standard)	.0020 — .0039
-	.0039 — .0059
K	.0059 — .0079
S	.0079 — .0098
M	.0098 — .0118

RECOMMENDED CUTTING CONDITIONS

Work Material	DC Conditions Hardness	φ.3906"—φ.5000" φ10.0—φ12.9mm		φ.5156"—φ.5469" φ13.0—φ13.9mm		φ.5625"—φ.6094" φ14.0—φ15.4mm		φ.62506"—φ.7188" φ15.5—φ18.4mm	
		Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)	Cutting Speed (SFM)	Feed (IPR)
P Mild Steel	≤180HB	260 (195—330)	.008 (.006— .010)	295 (230—360)	.010 (.008— .012)	330 (260—390)	.012 (.010— .014)	330 (260—390)	.014 (.010— .016)
	180—280HB	260 (195—330)	.008 (.006— .010)	295 (230—360)	.010 (.008— .012)	330 (260—390)	.012 (.010— .014)	330 (260—390)	.014 (.010— .016)
	280—350HB	230 (195—295)	.008 (.006— .010)	260 (195—330)	.010 (.008— .012)	295 (230—360)	.010 (.008— .012)	295 (230—360)	.012 (.008— .014)
M Stainless Steel	≤200HB	130 (100—165)	.005 (.004— .006)	165 (130—195)	.006 (.005— .007)	195 (165—230)	.007 (.006— .008)	195 (165—230)	.006 (.005— .008)
K Gray Cast Iron	Tensile Strength ≤350MPa	260 (195—330)	.008 (.006— .010)	295 (230—360)	.010 (.008— .012)	330 (260—390)	.012 (.010— .014)	390 (260—460)	.018 (.014— .022)
	Ductile Cast Iron Tensile Strength ≤450MPa	230 (195—295)	.008 (.006— .010)	260 (195—330)	.010 (.008— .012)	295 (230—360)	.012 (.010— .014)	330 (260—390)	.014 (.010— .016)



(Note 1) When using a drill for 1.5DC depth of hole, it is possible to increase the feed rate by approx. 20%.

(Note 2) When using a drill for 8DC depth of hole, please decrease the cutting speed by approx. 20%.

(Note 3) When using a drill for 8DC depth of hole, it is recommended to make a pilot hole of the same size.

(Note 4) For stainless steel, please use internal coolant. (Mist & MQL are not recommended).

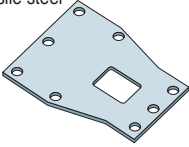

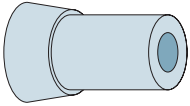
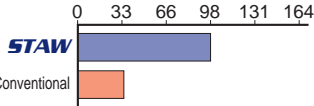
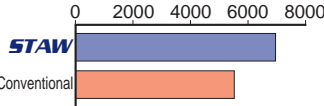
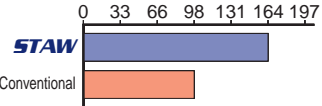
SPARE PARTS

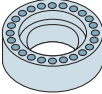
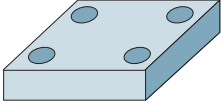
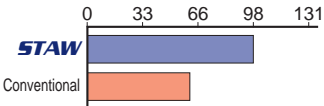
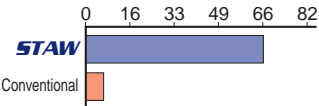
Applicable Holder	Pack Order Number (Internal screw & stopper)				
	inch	mm	Internal Screw	Stopper	
STAWSS	0026	1000S16	WS203107TPS-35LH	WS203107TPS	WS35LH
	0027	1050S16	WS203107TPS-35LH	WS203107TPS	WS35LH
	0028	1100S16	WS203108TPS-35LH	WS203108TPS	WS35LH
	0030	1150S16	WS203108TPS-35LH	WS203108TPS	WS35LH
	0031	1200S16	WS203108TPS-35LH	WS203108TPS	WS35LH
	0032	1250S16	WS203108TPS-35LH	WS203108TPS	WS35LH
STAWSN	0034	1300S16	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWMN	0035	1350S16	WS253909TPS-45LH	WS253909TPS	WS45LH
STAWLN	0036	1400S16	WS253909TPS-45LH	WS253909TPS	WS45LH
	0037	1450S16	WS253909TPS-45LH	WS253909TPS	WS45LH
	0039	1500S20	WS253909TPS-45LH	WS253909TPS	WS45LH
	0041	1600S20	WS304912TPS-55LH	WS304912TPS	WS55LH
	0044	1700S20	WS304912TPS-55LH	WS304912TPS	WS55LH
	0046	1800S20	WS304912TPS-55LH	WS304912TPS	WS55LH

* Clamp Torque (lbf-in) : WS203107TPS=8.9, WS203108TPS=8.9, WS253909TPS=17.7, WS304912TPS=22.1

(Note) The parts included in the package are internal screw, stopper and operation manual. Please replace the parts in accordance with the operation manual.

APPLICATION EXAMPLES

Holder		STAWMN1000S16	STAWSS1150S16	STAWMN1350S16
Insert (Grade)		STAWN1000TH (VP15TF)	STAWN1150TH (VP15TF)	STAWN1350TH (VP15TF)
Work piece		High tensile steel 	Bearing steel 	Carbon steel 
Component		Arm parts	Sleeve	Shaft
Cutting Conditions	Cutting Speed (SFM)	330	200	310
	Feed (IPR)	.010	.007	.010
	Revolution (RPM)	3200	1685	2225
	Penetration Rate (inch/min)	32	11.8	22.3
Cutting mode		W.S.O. (Internal coolant)	W.S.O. (Internal coolant)	W.S.O. (Internal coolant)
Machine		Machining center	Lathe	Lathe
Result		Cutting length (ft) 0 33 66 98 131 164 	Number of holes 0 2000 4000 6000 8000 	Cutting length (ft) 0 33 66 98 131 164 197 

Holder		STAWMN1100S16	STAWSN1450S16
Insert (Grade)		STAWN1100TH (VP15TF)	STAWK1450TG(DP5010)
Work piece		Alloy steel 	Cast iron (No35B) 
Component		Machine parts	Machine plate
Cutting Conditions	Cutting Speed (SFM)	230	590
	Feed (IPR)	.010	.016
	Revolution (RPM)	2030	3945
	Penetration Rate (inch/min)	20.3	63.12
Cutting mode		W.S.O. (Internal coolant)	W.S.O. (Internal coolant)
Machine		Machining center	Machining center
Result		Cutting length (ft) 0 33 66 98 131 	Cutting length (ft) 0 16 33 49 66 82 

Indexable Type Drill

WSTAR Insert Type Drill

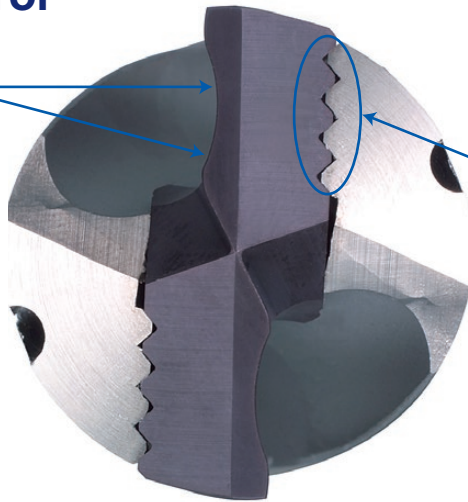
TAW

Designed for extreme sharpness and accuracy

Wavy type cutting edge for superior chip control

Wavy cutting edge

The wavy edge design achieves sharp peripheral edge cutting performance with a strong initial cutting point near the center.



Serrated insert clamping geometry

Unique serration geometry

Mitsubishi's unique serration structure allows high clamping accuracy to be maintained.

Cutting edge shape

Insert grade

VP15TF Insert grade for general purpose

Suitable for machining a wide range of work piece materials from mild and alloy steels through stainless steels and cast iron.



DP5010 Insert grade for cast iron

A new PVD coated grade for cast iron. Cemented carbide substrate coated using a proprietary method of crystal control technology.



High durability body

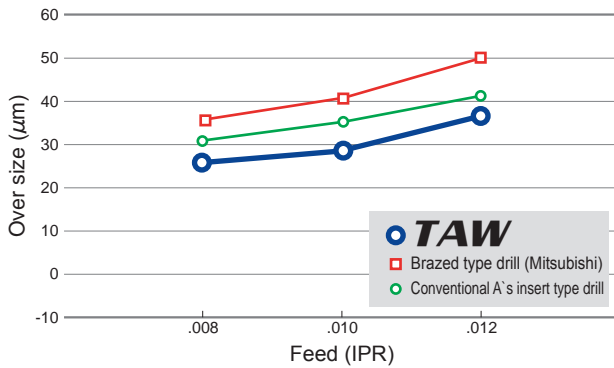
The cutter bodies are made resistant to corrosion and abrasion by using a superior, high heat resistant alloy and a special surface treatment.



Cutting Performance

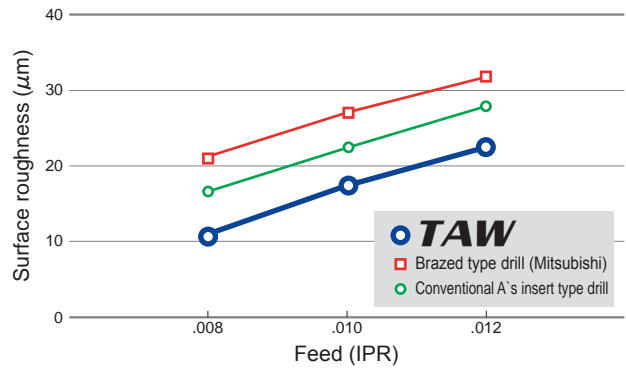
Steel Drilling

Over Size



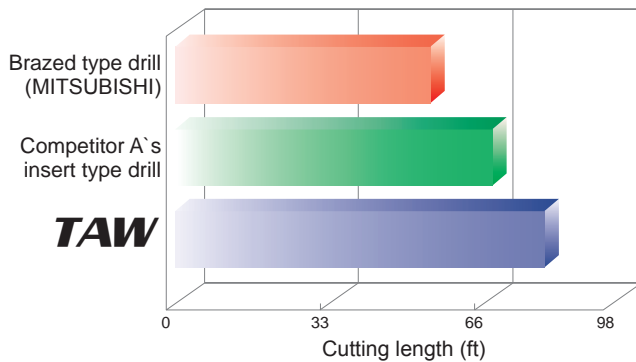
<Cutting conditions>
 Work piece : AISI 1050(150-180HB)
 Drill diameter : $\phi 20$ (L/D=5)
 Cutting speed : 260 SFM
 Coolant : Emulsion 10%
 Pressure : 75 PSI(Internal coolant)

Surface Roughness



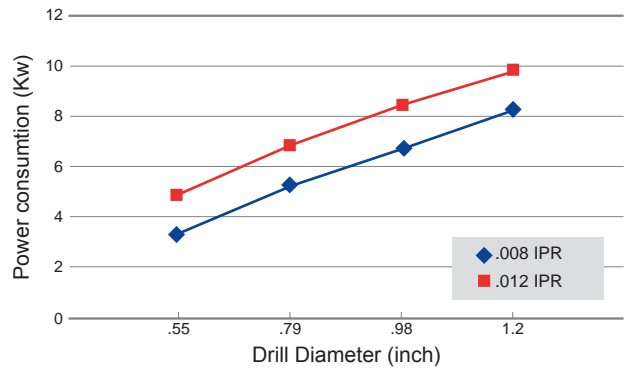
<Cutting conditions>
 Work piece : AISI 1050(150-180HB)
 Drill diameter : $\phi 20$ (L/D=5)
 Cutting speed : 260 SFM
 Coolant : Emulsion 10%
 Pressure : 75 PSI(Internal coolant)

Insert Life



<Cutting conditions>
 Work piece : AISI 1050(150-180HB)
 Drill diameter : $\phi 20$ (L/D=5)
 Cutting speed : 330 SFM
 Feed : .010 IPR
 Coolant : Emulsion 10%
 Pressure : 75 PSI(Internal coolant)

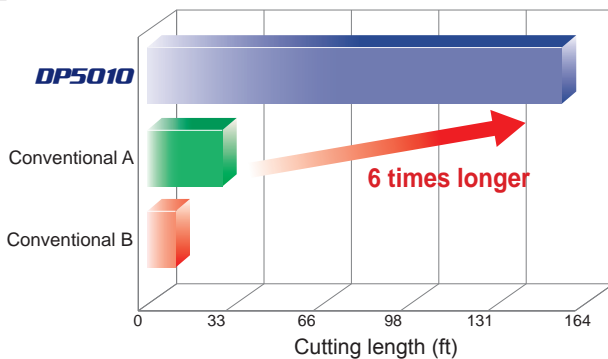
Power Consumption



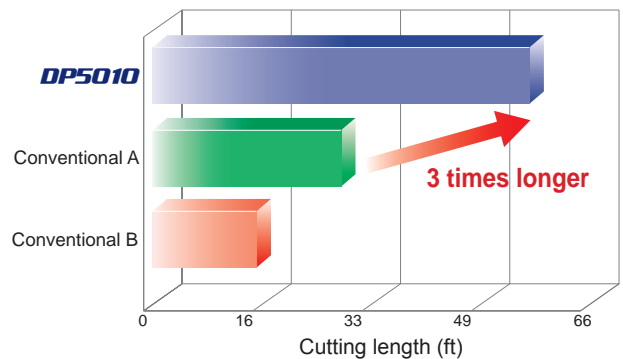
<Cutting conditions>
 Work piece : AISI 1050(150-180HB)
 Drill diameter : $\phi 20$ (L/D=5)
 Cutting speed : 260 SFM
 Coolant : Emulsion 10%
 Pressure : 75 PSI(Internal coolant)

Cast iron/Ductile cast iron Drilling

Insert Life



<Cutting conditions>
 Work piece : AISI No35 B
 Drill diameter : $\phi 18$ (L/D=3)
 Cutting speed : 460 SFM
 Feed : .016 IPR
 Coolant : Emulsion 10%
 Pressure : 75 PSI(Internal coolant)



<Cutting conditions>
 Work piece : AISI 65-45-12
 Drill diameter : $\phi 18$ (L/D=3)
 Cutting speed : 330 SFM
 Feed : .012 IPR
 Cutting mode: Emulsion 10%
 Pressure : 75 PSI(Internal coolant)

INDEXABLE TYPE DRILL

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

P M K N S H

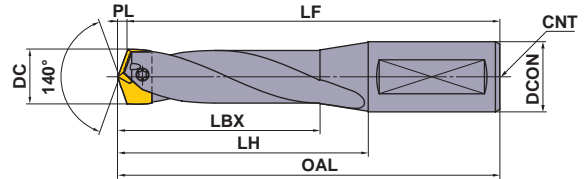
.5625 ≤ DC ≤ .6875	.7031 ≤ DC ≤ 1.1719	DC = 1.1875
-.00063 -.00134	-.00079 -.00161	-.00098 -.00197

(inch)

INCH STANDARD





L/D=3

Internal Coolant



Holder		Dimensions (inch)							* Insert Screw	① Wrench	Plate	Anti-seize Lubricant	DC (inch)	Insert	
Order Number	Stock	LBX	LH	OAL	LF	PL	DCON	CNT						Order Number	Stock
TAWSNH0036	▲	2.110	2.740	4.615	4.513	.102	.625	1/8-27	WS254012T	①TKY08W	WPT4405	MK1KS	.5625	TAWNH0036T	▲
TAWSNH0037	▲	2.231	3.058	4.933	4.828	.105	.625	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5781	TAWNH0037T	▲
TAWSNH0039	▲	2.234	3.061	5.061	4.953	.108	.750	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5938	TAWNH0038T	▲
													.6094	TAWNH0039T	▲
TAWSN0041	▲	2.397	3.264	5.264	5.150	.114	.750	1/8-27	WS254014T	①TKY08W	WPT4405	MK1KS	.6250	TAWNH0040T	▲
													.6406	TAWNH0041T	▲
TAWSN0044	▲	2.521	3.465	5.465	5.346	.119	.750	1/8-27	WS254015T	①TKY08W	WPT4405	MK1KS	.6563	TAWNH0042T	▲
													.6719	TAWNH0043T	▲
													.6875	TAWNH0044T	▲
TAWSN0045	▲	2.687	3.671	5.671	5.543	.128	.750	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7031	TAWNH0045T	▲
TAWSN0046	▲	2.690	3.674	5.924	5.793	.131	1.000	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7188	TAWNH0046T	▲
TAWSN0049	●	2.811	4.032	6.282	6.148	.134	1.000	1/8-27	WS304517T	②TKY10T	WPT4405	MK1KS	.7344	TAWNH0047T	●
													.7500	TAWNH0048T	●
													.7656	TAWNH0049T	●
TAWSN0051	●	2.977	4.040	6.290	6.148	.142	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.7813	TAWNH0050T	●
													.7969	TAWNH0051T	●
TAWSN0054	●	3.101	4.046	6.296	6.148	.148	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.8125	TAWNH0052T	●
													.8281	TAWNH0053T	●
													.8438	TAWNH0054T	●
TAWSN0056	●	3.266	4.250	6.500	6.344	.156	1.000	1/8-27	WS355520T	②TKY15T	WPT4405	MK1KS	.8594	TAWNH0055T	●
													.8750	TAWNH0056T	●

* Clamp Torque (lbf-in) : WS254012T=18, WS254013T=18, WS254014T=18, WS254015T=18, WS254016T=18, WS304517T=31, WS304518T=31, WS355520T=49
 (Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
 The LF, LH, and LBX dimensions listed in the table above, are measured using the VP15TF insert.
 When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

Holder		Dimensions (inch)							 *				DC (inch)	Insert	
Order Number	Stock	LBX	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWSN0059	●	3.390	4.256	6.506	6.344	.162	1.000	1/8-27	WS355521T	TKY15T	WPT4405	MK1KS	.8906	TAWNH0057T	●
													.9063	TAWNH0058T	●
													.9219	TAWNH0059T	●
TAWSN0061	●	3.557	4.502	6.877	6.706	.171	1.250	1/4-18	WS355521T	TKY15T	WPT4405	MK1KS	.9375	TAWNH0060T	●
													.9531	TAWNH0061T	●
TAWSN0100	●	3.641	4.507	6.882	6.706	.176	1.250	1/4-18	WS406023T	TKY25T	WPT4405	MK1KS	.9688	TAWNH0062T	●
													.9844	TAWNH0063T	●
													1.0000	TAWNH0100T	●
TAWSN0102	●	3.807	4.713	7.088	6.903	.185	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0156	TAWNH0101T	●
													1.0313	TAWNH0102T	●
TAWSN0105	●	3.892	4.719	7.094	6.903	.191	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0469	TAWNH0103T	●
													1.0625	TAWNH0104T	●
													1.0781	TAWNH0105T	●
TAWSN0107	●	4.018	4.923	7.298	7.099	.199	1.250	1/4-18	WS508026T	TKY27T	WPT4405	MK1KS	1.0938	TAWNH0106T	●
													1.1094	TAWNH0107T	●
TAWSN0110	●	4.142	5.126	7.501	7.296	.205	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1250	TAWNH0108T	●
													1.1406	TAWNH0109T	●
													1.1563	TAWNH0110T	●
TAWSN0112	●	4.307	5.134	7.509	7.296	.213	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1719	TAWNH0111T	●
													1.1875	TAWNH0112T	●

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

INDEXABLE TYPE DRILL

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.



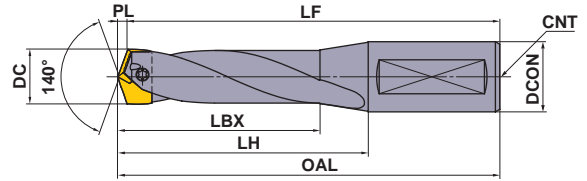
	.5625 ≤ DC ≤ .6875	.7031 ≤ DC ≤ 1.1719	DC = 1.1875
	-.00063	-.00079	-.00098
	-.00134	-.00161	-.00197

(inch)

INCH STANDARD

L/D=5





Internal Coolant



Holder		Dimensions (inch)							*				DC (inch)	Insert	
Order Number	Stock	LBX	LH	OAL	LF	PL	DCON	CNT						Insert Screw	Wrench
TAWMNH0036	▲	3.252	3.921	5.796	5.694	.102	.625	1/8-27	WS254012T	①TKY08W	WPT4405	MK1KS	.5625	TAWNH0036T	▲
TAWMNH0037	▲	3.451	4.239	6.114	6.009	.105	.625	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5781	TAWNH0037T	▲
TAWMNH0039	▲	3.454	4.242	6.242	6.134	.108	.750	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5938	TAWNH0038T	▲
													.6094	TAWNH0039T	▲
TAWMN0041	▲	3.697	4.642	6.642	6.528	.114	.750	1/8-27	WS254014T	①TKY08W	WPT4405	MK1KS	.6250	TAWNH0040T	▲
													.6406	TAWNH0041T	▲
TAWMN0044	▲	3.899	4.843	6.843	6.724	.119	.750	1/8-27	WS254015T	①TKY08W	WPT4405	MK1KS	.6563	TAWNH0042T	▲
													.6719	TAWNH0043T	▲
													.6875	TAWNH0044T	▲
TAWMN0045	▲	4.144	5.049	7.049	6.921	.128	.750	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7031	TAWNH0045T	▲
TAWMN0046	▲	4.147	5.052	7.302	7.171	.131	1.000	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7188	TAWNH0046T	▲
TAWMN0049	●	4.347	5.410	7.660	7.526	.134	1.000	1/8-27	WS304517T	②TKY10T	WPT4405	MK1KS	.7344	TAWNH0047T	●
													.7500	TAWNH0048T	●
													.7656	TAWNH0049T	●
TAWMN0051	●	4.591	5.614	7.864	7.722	.142	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.7813	TAWNH0050T	●
													.7969	TAWNH0051T	●
TAWMN0054	●	4.794	5.620	7.870	7.722	.148	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.8125	TAWNH0052T	●
													.8281	TAWNH0053T	●
													.8438	TAWNH0054T	●

* Clamp Torque (lbf-in) : WS254012T=18, WS254013T=18, WS254014T=18, WS254015T=18, WS254016T=18, WS304517T=31, WS304518T=31, WS355520T=49
 (Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).
 The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.
 When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

● : Inventory maintained. ▲ : This item to be discontinued within two years.

Holder		Dimensions (inch)							 *				DC (inch)	Insert		
Order Number	Stock	LBX	LH	OAL	LF	PL	DCON	CNT						Order Number	Stock	
											Insert Screw	Wrench	Plate	Anti-seize Lubricant		VP15TF
TAWMN0056	●	5.038	5.825	8.075	7.919	.156	1.000	1/8-27	WS355520T	TKY15T	WPT4405	MK1KS	.8594	TAWNH0055T	●	
													.8750	TAWNH0056T	●	
TAWMN0059	●	5.241	6.225	8.475	8.313	.162	1.000	1/8-27	WS355521T	TKY15T	WPT4405	MK1KS	.8906	TAWNH0057T	●	
													.9063	TAWNH0058T	●	
													.9219	TAWNH0059T	●	
TAWMN0061	●	5.486	6.470	8.845	8.674	.171	1.250	1/4-18	WS355521T	TKY15T	WPT4405	MK1KS	.9375	TAWNH0060T	●	
													.9531	TAWNH0061T	●	
TAWMN0100	●	5.688	6.672	9.047	8.871	.176	1.250	1/4-18	WS406023T	TKY25T	WPT4405	MK1KS	.9688	TAWNH0062T	●	
													.9844	TAWNH0063T	●	
													1.0000	TAWNH0100T	●	
TAWMN0102	●	5.933	6.878	9.253	9.068	.185	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0156	TAWNH0101T	●	
													1.0313	TAWNH0102T	●	
TAWMN0105	●	6.136	7.081	9.456	9.265	.191	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0469	TAWNH0103T	●	
													1.0625	TAWNH0104T	●	
													1.0781	TAWNH0105T	●	
TAWMN0107	●	6.380	7.286	9.661	9.462	.199	1.250	1/4-18	WS508026T	TKY27T	WPT4405	MK1KS	1.0938	TAWNH0106T	●	
													1.1094	TAWNH0107T	●	
TAWMN0110	●	6.583	7.488	9.863	9.658	.205	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1250	TAWNH0108T	●	
													1.1406	TAWNH0109T	●	
													1.1563	TAWNH0110T	●	
TAWMN0112	●	6.788	7.890	10.265	10.052	.213	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1719	TAWNH0111T	●	
													1.1875	TAWNH0112T	●	

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

INDEXABLE TYPE DRILL

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

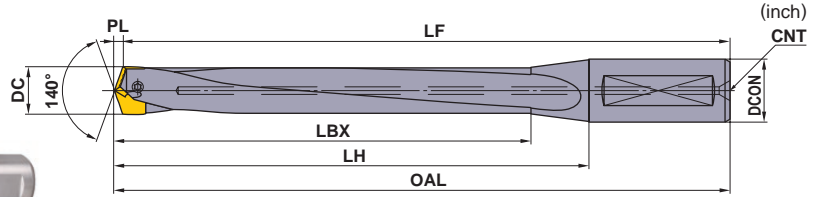
P M K N S H

.5625 ≤ DC ≤ .6875	.7031 ≤ DC ≤ 1.1719	DC = 1.1875
-.00063 -.00134	-.00079 -.00161	-.00098 -.00197

INCH STANDARD

L/D=8

Internal Coolant







Holder		Dimensions (inch)							* Insert Screw	① Wrench	Plate	Anti-seize Lubricant	DC (inch)	Insert	
Order Number	Stock	LBX	LH	OAL	LF	PL	DCON	CNT						Order Number	Stock
TAWLNH0036	▲	4.905	5.496	7.370	7.268	.102	.625	1/8-27	WS254012T	①TKY08W	WPT4405	MK1KS	.5625	TAWNH0036T	▲
TAWLNH0037	▲	5.223	5.932	7.806	7.701	.105	.625	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5781	TAWNH0037T	▲
TAWLNH0039	▲	5.226	5.935	7.935	7.827	.108	.750	1/8-27	WS254013T	①TKY08W	WPT4405	MK1KS	.5938	TAWNH0038T	▲
													.6094	TAWNH0039T	▲
TAWLN0041	▲	5.547	6.334	8.334	8.220	.114	.750	1/8-27	WS254014T	①TKY08W	WPT4405	MK1KS	.6250	TAWNH0040T	▲
													.6406	TAWNH0041T	▲
TAWLN0044	▲	5.867	6.654	8.654	8.535	.119	.750	1/8-27	WS254015T	①TKY08W	WPT4405	MK1KS	.6563	TAWNH0042T	▲
													.6719	TAWNH0043T	▲
													.6875	TAWNH0044T	▲
TAWLN0045	▲	6.191	6.978	8.978	8.850	.128	.750	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7031	TAWNH0045T	▲
TAWLN0046	▲	6.194	6.981	9.233	9.102	.131	1.000	1/8-27	WS254016T	①TKY08W	WPT4405	MK1KS	.7188	TAWNH0046T	▲
TAWLN0049	●	6.512	7.417	9.669	9.535	.134	1.000	1/8-27	WS304517T	②TKY10T	WPT4405	MK1KS	.7344	TAWNH0047T	●
													.7500	TAWNH0048T	●
													.7656	TAWNH0049T	●
TAWLN0051	●	6.835	7.740	9.992	9.850	.142	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.7813	TAWNH0050T	●
													.7969	TAWNH0051T	●
TAWLN0054	●	7.156	8.101	10.353	10.205	.148	1.000	1/8-27	WS304518T	②TKY10T	WPT4405	MK1KS	.8125	TAWNH0052T	●
													.8281	TAWNH0053T	●
													.8438	TAWNH0054T	●

* Clamp Torque (lbf-in) : WS254012T=18, WS254013T=18, WS254014T=18, WS254015T=18, WS254016T=18, WS304517T=31, WS304518T=31, WS355520T=49
 (Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.
 When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

● : Inventory maintained. ▲ : This item to be discontinued within two years.

Holder		Dimensions (inch)							 *				DC (inch)	Insert	
Order Number	Stock	LBX	LH	OAL	LF	PL	DCON	CNT	Insert Screw	Wrench	Plate	Anti-seize Lubricant		Order Number	Stock VP15TF
TAWLN0056	●	7.479	8.424	10.676	10.520	.156	1.000	1/8-27	WS355520T	TKY15T	WPT4405	MK1KS	.8594	TAWNH0055T	●
													.8750	TAWNH0056T	●
TAWLN0059	●	7.800	8.942	11.193	11.031	.162	1.000	1/8-27	WS355521T	TKY15T	WPT4405	MK1KS	.8906	TAWNH0057T	●
													.9063	TAWNH0058T	●
													.9219	TAWNH0059T	●
TAWLN0061	●	8.124	9.305	11.679	11.508	.171	1.250	1/4-18	WS355521T	TKY15T	WPT4405	MK1KS	.9375	TAWNH0060T	●
													.9531	TAWNH0061T	●
TAWLN0100	●	8.444	9.625	11.999	11.823	.176	1.250	1/4-18	WS406023T	TKY25T	WPT4405	MK1KS	.9688	TAWNH0062T	●
													.9844	TAWNH0063T	●
													1.0000	TAWNH0100T	●
TAWLN0102	●	8.768	9.949	12.323	12.138	.185	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0156	TAWNH0101T	●
													1.0313	TAWNH0102T	●
TAWLN0105	●	9.089	10.270	12.644	12.453	.191	1.250	1/4-18	WS406024T	TKY25T	WPT4405	MK1KS	1.0469	TAWNH0103T	●
													1.0625	TAWNH0104T	●
													1.0781	TAWNH0105T	●
TAWLN0107	●	9.412	10.593	12.967	12.768	.199	1.250	1/4-18	WS508026T	TKY27T	WPT4405	MK1KS	1.0938	TAWNH0106T	●
													1.1094	TAWNH0107T	●
TAWLN0110	●	9.733	10.914	13.288	13.083	.205	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1250	TAWNH0108T	●
													1.1406	TAWNH0109T	●
													1.1563	TAWNH0110T	●
TAWLN0112	●	10.056	11.433	13.807	13.594	.213	1.250	1/4-18	WS508027T	TKY27T	WPT4405	MK1KS	1.1719	TAWNH0111T	●
													1.1875	TAWNH0112T	●

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note 1) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

INDEXABLE TYPE DRILL

TAW

- Wavy cutting edge design for good chip control.
- Serration geometry for accurate insert location.

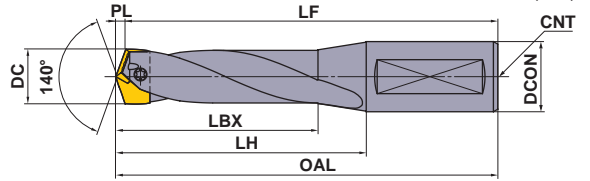
P M K N S H

18 < DC ≤ 30

$\begin{matrix} 0 \\ -0.021 \end{matrix}$ (mm)

METRIC STANDARD

Internal Coolant



Hole Depth (l/d)	Holder		Dimensions (mm)						Insert Screw*	Wrench	Plate	Anti-seize Lubricant	DC (mm)	Insert	
	Order Number	Stock	LBX	LH	OAL	LF	PL	DCON						Order Number	Stock
3	TAWSN1900S25	★	71.4	102.4	158.4	155.0	3.4	25	WS304517T	TKY10T	WPT4405	MK1KS	18.5	TAWNH1850T	●
														TAWKH1850TG	★
													18.6	TAWNH1860T	●
														TAWKH1860TG	★
5	TAWMN1900S25	★	110.4	137.4	193.4	190.0	3.4	25	WS304517T	TKY10T	WPT4405	MK1KS	18.7	TAWNH1870T	●
														TAWKH1870TG	★
													18.8	TAWNH1880T	●
														TAWKH1880TG	★
8	TAWLN1900S25	★	165.5	188.5	244.5	241.0	3.5	25	WS304517T	TKY10T	WPT4405	MK1KS	18.9	TAWNH1890T	●
														TAWKH1890TG	★
													19.0	TAWNH1900T	●
														TAWKH1900TG	★
3	TAWSN2000S25	★	75.5	102.5	158.5	155.0	3.5	25	WS304518T	TKY10T	WPT4405	MK1KS	19.1	TAWNH1910T	●
														TAWKH1910TG	★
													19.2	TAWNH1920T	●
														TAWKH1920TG	★
5	TAWMN2000S25	★	116.6	142.6	198.6	195.0	3.6	25	WS304518T	TKY10T	WPT4405	MK1KS	19.3	TAWNH1930T	●
														TAWKH1930TG	★
													19.4	TAWNH1940T	●
														TAWKH1940TG	★
8	TAWLN2000S25	★	173.7	196.7	252.7	249.0	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	19.5	TAWNH1950T	●
														TAWKH1950TG	★
													19.6	TAWNH1960T	●
														TAWKH1960TG	★
3	TAWSN2100S25	★	78.7	102.7	158.7	155.0	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	19.7	TAWNH1970T	●
														TAWKH1970TG	★
													19.8	TAWNH1980T	●
														TAWKH1980TG	★
5	TAWMN2100S25	★	121.8	142.8	198.8	195.0	3.8	25	WS304518T	TKY10T	WPT4405	MK1KS	19.9	TAWNH1990T	●
														TAWKH1990TG	★
													20.0	TAWNH2000T	●
														TAWKH2000TG	★
8	TAWLN2100S25	★	181.9	205.9	261.9	258.0	3.9	25	WS304518T	TKY10T	WPT4405	MK1KS	20.5	TAWNH2050T	●
														TAWKH2050TG	★
													21.0	TAWNH2100T	●
														TAWKH2100TG	★
3	TAWSN2200S25	★	83.2	108.2	164.2	160.3	3.9	25	WS35520T	TKY15T	WPT4405	MK1KS	21.5	TAWNH2150T	●
														TAWKH2150TG	★
													22.0	TAWNH2200T	●
														TAWKH2200TG	★
5	TAWMN2200S25	★	128.3	148.3	204.3	200.3	4.0	25	WS35520T	TKY15T	WPT4405	MK1KS			
8	TAWLN2200S25	★	190.0	214.0	270.0	266.0	4.0	25	WS35520T	TKY15T	WPT4405	MK1KS			





* Clamp Torque (lbf-in) : WS304517T=31, WS304518T=31, WS35520T=49

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The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

● : Inventory maintained. ★ : Inventory maintained in Japan.

Hole Depth l/d	Holder		Dimensions (mm)						 * Insert Screw	 Wrench	 Plate	 Anti-seize Lubricant	DC (mm)	Insert		
	Order Number	Stock	LBX	LH	OAL	LF	PL	DCON						Order Number	Stock	
															VP15TF	DP5010
3	TAWSN2300S25	★	86.4	108.4	164.4	160.3	4.1	25	WS355521T	TKY15T	WPT4405	MK1KS	22.5	TAWNH2250T	●	
5	TAWMN2300S25	★	133.4	158.4	214.4	210.3	4.1	25	WS355521T	TKY15T	WPT4405	MK1KS		TAWKH2250TG		★
8	TAWLN2300S25	★	198.2	227.2	283.2	279.0	4.2	25	WS355521T	TKY15T	WPT4405	MK1KS	23.0	TAWNH2300T	●	
														TAWKH2300TG		★
3	TAWSN2400S32	★	90.6	114.6	174.6	170.3	4.3	32	WS355521T	TKY15T	WPT4405	MK1KS	23.5	TAWNH2350T	●	
5	TAWMN2400S32	★	139.6	164.6	224.6	220.3	4.3	32	WS355521T	TKY15T	WPT4405	MK1KS		TAWKH2350TG		★
8	TAWLN2400S32	★	206.4	236.4	296.4	292.0	4.4	32	WS355521T	TKY15T	WPT4405	MK1KS	24.0	TAWNH2400T	●	
														TAWKH2400TG		★
3	TAWSN2500S32	★	93.1	115.1	175.1	170.6	4.5	32	WS406023T	TKY25T	WPT4405	MK1KS	24.5	TAWNH2450T	●	
5	TAWMN2500S32	★	145.1	170.1	230.1	225.6	4.5	32	WS406023T	TKY25T	WPT4405	MK1KS		TAWKH2450TG		★
8	TAWLN2500S32	★	214.6	244.6	304.6	300.0	4.6	32	WS406023T	TKY25T	WPT4405	MK1KS	25.0	TAWNH2500T	●	
														TAWKH2500TG		★
3	TAWSN2600S32	★	97.2	120.2	180.2	175.6	4.6	32	WS406024T	TKY25T	WPT4405	MK1KS	25.5	TAWNH2550T	●	
5	TAWMN2600S32	★	151.3	175.3	235.3	230.6	4.7	32	WS406024T	TKY25T	WPT4405	MK1KS		TAWKH2550TG		★
8	TAWLN2600S32	★	222.8	252.8	312.8	308.0	4.8	32	WS406024T	TKY25T	WPT4405	MK1KS	26.0	TAWNH2600T	●	
														TAWKH2600TG		★
3	TAWSN2700S32	★	99.4	120.4	180.4	175.6	4.8	32	WS406024T	TKY25T	WPT4405	MK1KS	26.5	TAWNH2650T	●	
5	TAWMN2700S32	★	156.5	180.5	240.5	235.6	4.9	32	WS406024T	TKY25T	WPT4405	MK1KS		TAWKH2650TG		★
8	TAWLN2700S32	★	230.9	260.9	320.9	316.0	4.9	32	WS406024T	TKY25T	WPT4405	MK1KS	27.0	TAWNH2700T	●	
														TAWKH2700TG		★
3	TAWSN2800S32	★	102.2	125.2	185.2	180.2	5.0	32	WS508026T	TKY27T	WPT4405	MK1KS	27.5	TAWNH2750T	●	
5	TAWMN2800S32	★	162.3	185.3	245.3	240.2	5.1	32	WS508026T	TKY27T	WPT4405	MK1KS		TAWKH2750TG		★
8	TAWLN2800S32	★	239.1	269.1	329.1	324.0	5.1	32	WS508026T	TKY27T	WPT4405	MK1KS	28.0	TAWNH2800T	●	
														TAWKH2800TG		★
3	TAWSN2900S32	★	105.4	130.4	190.4	185.2	5.2	32	WS508027T	TKY27T	WPT4405	MK1KS	28.5	TAWNH2850T	●	
5	TAWMN2900S32	★	167.4	190.4	250.4	245.2	5.2	32	WS508027T	TKY27T	WPT4405	MK1KS		TAWKH2850TG		★
8	TAWLN2900S32	★	247.3	277.3	337.3	332.0	5.3	32	WS508027T	TKY27T	WPT4405	MK1KS	29.0	TAWNH2900T	●	
														TAWKH2900TG		★
3	TAWSN3000S32	★	109.6	130.6	190.6	185.2	5.4	32	WS508027T	TKY27T	WPT4405	MK1KS	29.5	TAWNH2950T	●	
5	TAWMN3000S32	★	172.6	200.6	260.6	255.2	5.4	32	WS508027T	TKY27T	WPT4405	MK1KS		TAWKH2950TG		★
8	TAWLN3000S32	★	255.5	290.5	350.5	345.0	5.5	32	WS508027T	TKY27T	WPT4405	MK1KS	30.0	TAWNH3000T	●	
														TAWKH3000TG		★

* Clamp Torque (lbf-in) : WS355521T=49, WS406023T=75, WS406024T=75, WS508026T=110, WS508027T=110

(Note) Please contact us for any geometry that is not in this catalog (e.g. different diameter and length).

The LF, LH and LBX dimensions listed in the table above, are measured using the VP15TF insert.

When using the DP5010 insert, the LF, LH and LBX dimensions will be slightly reduced.

RECOMMENDED CUTTING CONDITIONS

Work Material	DC Conditions Hardness	φ.5625"–φ.6094" φ14.0–φ15.4mm		φ.6250"–φ.7188" φ15.5–φ18.4mm		φ.7344"–φ.8438" φ18.5–φ21.4mm	
		Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)
P Mild Steel	≤180HB	230 (195–295)	.008 (.006–.010)	260 (195–330)	.010 (.008–.012)	295 (230–360)	.010 (.008–.012)
	180–280HB	230 (195–295)	.008 (.006–.010)	260 (195–330)	.010 (.008–.012)	260 (195–330)	.010 (.008–.012)
	280–350HB	195 (165–260)	.006 (.005–.007)	230 (165–295)	.008 (.006–.010)	230 (165–295)	.008 (.006–.010)
M Stainless Steel	≤200HB	165 (130–195)	.006 (.005–.007)	165 (130–195)	.006 (.005–.007)	195 (165–230)	.008 (.006–.009)
K Gray Cast Iron	Tensile Strength ≤350MPa	230 (165–295)	.008 (.006–.010)	330 (195–395)	.010 (.008–.012)	390 (195–460)	.010 (.008–.012)
	Tensile Strength ≤450MPa	230 (165–295)	.008 (.006–.010)	260 (195–295)	.010 (.008–.012)	260 (195–295)	.010 (.008–.012)

Work Material	DC Conditions Hardness	φ.8594"–φ.9531" φ21.5–φ24.4mm		φ.9688"–φ1.0781" φ24.5–φ27.4mm		φ1.0938"–φ1.1875" φ27.5–φ30.4mm	
		Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)	Cutting Speed (SFM)	Feed (inch/rev)
P Mild Steel	≤180HB	330 (260–390)	.012 (.010–.014)	360 (260–390)	.012 (.010–.014)	360 (260–390)	.012 (.010–.014)
	180–280HB	295 (230–360)	.012 (.010–.014)	330 (260–390)	.012 (.010–.014)	330 (260–390)	.012 (.010–.014)
	280–350HB	260 (195–330)	.010 (.008–.012)	295 (230–360)	.010 (.008–.012)	295 (230–360)	.010 (.008–.012)
M Stainless Steel	≤200HB	195 (165–230)	.008 (.006–.009)	230 (195–260)	.010 (.008–.011)	230 (195–260)	.010 (.008–.011)
K Gray Cast Iron	Tensile Strength ≤350MPa	425 (260–490)	.014 (.010–.016)	460 (295–525)	.014 (.010–.016)	460 (295–525)	.016 (.012–.018)
	Tensile Strength ≤450MPa	295 (195–330)	.012 (.010–.014)	330 (260–360)	.012 (.010–.014)	330 (260–360)	.012 (.010–.014)

NOTES ON USE

INSERT INSTALLATION

- Loosen insert screw of holder to install insert.
- Mesh the insert serration to holder grooves.
- Fasten the insert screw using the provided wrench while holding rake face of the insert lightly with your thumb. (Figure 1)
- Check that there is no clearance between the insert bottom and holder flute end. (Figure 2)

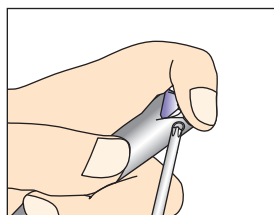


Figure 1

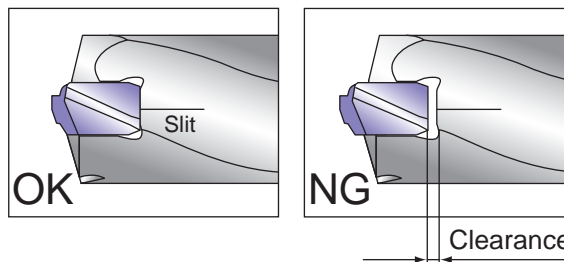


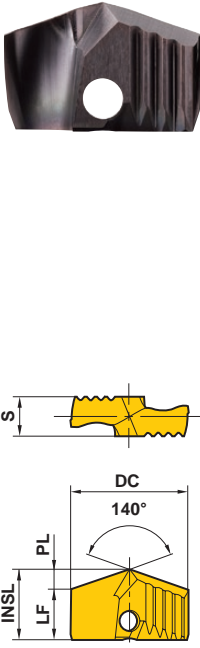
Figure 2

NOTE ON INSERT REPLACEMENT

- Clean insert guide grooves by blowing air before installing a new insert.
- Clean the "slit" underneath the insert on the holder with the provided plate.
- Use the provided anti-seize lubricant for lubricating the threads of the insert screw.

INSERTS


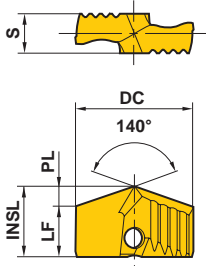
INCH STANDARD

Geometry	Order Number	Stock	Dimensions (inch)			Applicable Holder	
		VP15TF	DC	LF	S	Inch	Metric
	TAWNH0036T	▲	.5625	.299	.197	TAWS/M/LNH0036	TAWS/M/LNH1400S16
	TAWNH0037T	▲	.5781	.295	.197	TAWS/M/LNH0037	TAWS/M/LNH1500S20
	TAWNH0038T	▲	.5938	.291	.197	TAWS/M/LNH0039	
	TAWNH0039T	▲	.6094	.291	.197		
	TAWNH0040T	▲	.6250	.311	.236	TAWS/M/LN0041	TAWS/M/LN1600S20
	TAWNH0041T	▲	.6406	.307	.236		
	TAWNH0042T	▲	.6563	.303	.236	TAWS/M/LN0044	TAWS/M/LN1700S20
	TAWNH0043T	▲	.6719	.299	.236		
	TAWNH0044T	▲	.6875	.299	.236	TAWS/M/LN0045	TAWS/M/LN1800S20
	TAWNH0045T	▲	.7031	.295	.236		
	TAWNH0046T	▲	.7188	.291	.236	TAWS/M/LN0046	TAWS/M/LN1900S25
	TAWNH0047T	●	.7344	.366	.276	TAWS/M/LN0049	
	TAWNH0048T	●	.7500	.362	.276		
	TAWNH0049T	●	.7656	.362	.276	TAWS/M/LN0051	TAWS/M/LN2000S25
	TAWNH0050T	●	.7813	.358	.276		
	TAWNH0051T	●	.7969	.354	.276	TAWS/M/LN0054	TAWS/M/LN2100S25
	TAWNH0052T	●	.8125	.350	.276		
	TAWNH0053T	●	.8281	.346	.276	TAWS/M/LN0056	TAWS/M/LN2200S25
	TAWNH0054T	●	.8438	.346	.276		
	TAWNH0055T	●	.8594	.417	.315	TAWS/M/LN0059	TAWS/M/LN2300S25
	TAWNH0056T	●	.8750	.413	.315		
	TAWNH0057T	●	.8906	.409	.315	TAWS/M/LN0061	TAWS/M/LN2400S32
	TAWNH0058T	●	.9063	.406	.315		
	TAWNH0059T	●	.9219	.406	.315	TAWS/M/LN0100	TAWS/M/LN2500S32
	TAWNH0060T	●	.9375	.402	.315		
	TAWNH0061T	●	.9531	.398	.315	TAWS/M/LN0102	TAWS/M/LN2600S32
	TAWNH0062T	●	.9688	.461	.354		
	TAWNH0063T	●	.9844	.457	.354	TAWS/M/LN0105	TAWS/M/LN2700S32
	TAWNH0100T	●	1.0000	.457	.354		
	TAWNH0101T	●	1.0156	.453	.354	TAWS/M/LN0107	TAWS/M/LN2800S32
	TAWNH0102T	●	1.0313	.449	.354		
	TAWNH0103T	●	1.0469	.445	.354	TAWS/M/LN0110	TAWS/M/LN2900S32
TAWNH0104T	●	1.0625	.445	.354			
TAWNH0105T	●	1.0781	.441	.354	TAWS/M/LN0112	TAWS/M/LN3000S32	
TAWNH0106T	●	1.0938	.484	.394			
TAWNH0107T	●	1.1094	.480	.394			
TAWNH0108T	●	1.1250	.476	.394			
TAWNH0109T	●	1.1406	.476	.394			
TAWNH0110T	●	1.1563	.472	.394			
TAWNH0111T	●	1.1719	.469	.394			
TAWNH0112T	●	1.1875	.465	.394			


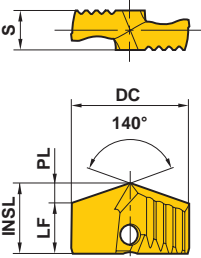
● : Inventory maintained. ▲ : This item to be discontinued within two years.
 <One insert in one case>

INSERTS

METRIC STANDARD

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		VP15TF	DC	LF	S	Inch	Metric
 	TAWNH1400T	▲	14.0	7.6	5.0		
	TAWNH1410T	▲	14.1	7.6	5.0	TAWSNH0036	TAWSNH1400S16
	TAWNH1420T	▲	14.2	7.6	5.0	TAWMNH0036	TAWMNH1400S16
	TAWNH1430T	▲	14.3	7.6	5.0	TAWLNH0036	TAWLNH1400S16
	TAWNH1440T	▲	14.4	7.6	5.0		
	TAWNH1450T	▲	14.5	7.5	5.0		
	TAWNH1460T	▲	14.6	7.5	5.0		
	TAWNH1470T	▲	14.7	7.5	5.0	TAWSNH0037	
	TAWNH1480T	▲	14.8	7.5	5.0	TAWMNH0037	
	TAWNH1490T	▲	14.9	7.5	5.0	TAWLNH0037	TAWSNH1500S20
	TAWNH1500T	▲	15.0	7.4	5.0	TAWSNH0039	TAWMNH1500S20
	TAWNH1510T	▲	15.1	7.4	5.0	TAWMNH0039	TAWLNH1500S20
	TAWNH1520T	▲	15.2	7.4	5.0	TAWLNH0039	
	TAWNH1530T	▲	15.3	7.4	5.0		
	TAWNH1540T	▲	15.4	7.4	5.0		
	TAWNH1550T	▲	15.5	7.9	6.0		
	TAWNH1560T	▲	15.6	7.9	6.0		
	TAWNH1570T	▲	15.7	7.9	6.0		
	TAWNH1580T	▲	15.8	7.9	6.0	TAWSN0041	TAWSN1600S20
	TAWNH1590T	▲	15.9	7.9	6.0	TAWMN0041	TAWMN1600S20
	TAWNH1600T	▲	16.0	7.8	6.0	TAWLN0041	TAWLN1600S20
	TAWNH1610T	▲	16.1	7.8	6.0		
	TAWNH1620T	▲	16.2	7.8	6.0		
	TAWNH1630T	▲	16.3	7.8	6.0		
	TAWNH1640T	▲	16.4	7.8	6.0		
	TAWNH1650T	▲	16.5	7.7	6.0		
	TAWNH1660T	▲	16.6	7.7	6.0		
	TAWNH1670T	▲	16.7	7.7	6.0		
	TAWNH1680T	▲	16.8	7.7	6.0	TAWSN0044	TAWSN1700S20
	TAWNH1690T	▲	16.9	7.7	6.0	TAWMN0044	TAWMN1700S20
	TAWNH1700T	▲	17.0	7.6	6.0	TAWLN0044	TAWLN1700S20
	TAWNH1710T	▲	17.1	7.6	6.0		
	TAWNH1720T	▲	17.2	7.6	6.0		
	TAWNH1730T	▲	17.3	7.6	6.0		
TAWNH1740T	▲	17.4	7.6	6.0			
TAWNH1750T	▲	17.5	7.5	6.0			
TAWNH1760T	▲	17.6	7.5	6.0			
TAWNH1770T	▲	17.7	7.5	6.0	TAWSN0045	TAWSN1800S20	
TAWNH1780T	▲	17.8	7.5	6.0	TAWMN0045	TAWMN1800S20	
TAWNH1790T	▲	17.9	7.5	6.0	TAWLN0045	TAWLN1800S20	
TAWNH1800T	▲	18.0	7.4	6.0	TAWSN0046		
TAWNH1810T	▲	18.1	7.4	6.0	TAWMN0046		
TAWNH1820T	▲	18.2	7.4	6.0	TAWLN0046		
TAWNH1830T	▲	18.3	7.4	6.0			
TAWNH1840T	▲	18.4	7.4	6.0			

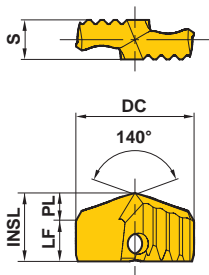
● : Inventory maintained. ▲ : This item to be discontinued within two years.
 <One insert in one case>

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		VP15TF	DC	LF	S	Inch	Metric
 	TAWNH1850T	●	18.5	9.3	7.0	TAWSN0049 TAWMN0049 TAWLN0049	TAWSN1900S25 TAWMN1900S25 TAWLN1900S25
	TAWNH1860T	●	18.6	9.3	7.0		
	TAWNH1870T	●	18.7	9.3	7.0		
	TAWNH1880T	●	18.8	9.3	7.0		
	TAWNH1890T	●	18.9	9.3	7.0		
	TAWNH1900T	●	19.0	9.2	7.0		
	TAWNH1910T	●	19.1	9.2	7.0		
	TAWNH1920T	●	19.2	9.2	7.0		
	TAWNH1930T	●	19.3	9.2	7.0		
	TAWNH1940T	●	19.4	9.2	7.0		
	TAWNH1950T	●	19.5	9.1	7.0	TAWSN0051 TAWMN0051 TAWLN0051	TAWSN2000S25 TAWMN2000S25 TAWLN2000S25
	TAWNH1960T	●	19.6	9.1	7.0		
	TAWNH1970T	●	19.7	9.1	7.0		
	TAWNH1980T	●	19.8	9.1	7.0		
	TAWNH1990T	●	19.9	9.1	7.0		
	TAWNH2000T	●	20.0	9.0	7.0		
	TAWNH2050T	●	20.5	8.9	7.0	TAWSN0054 TAWMN0054 TAWLN0054	TAWSN2100S25 TAWMN2100S25 TAWLN2100S25
	TAWNH2100T	●	21.0	8.8	7.0		
	TAWNH2150T	●	21.5	10.6	8.0	TAWSN0056 TAWMN0056 TAWLN0056	TAWSN2200S25 TAWMN2200S25 TAWLN2200S25
	TAWNH2200T	●	22.0	10.5	8.0		
	TAWNH2250T	●	22.5	10.4	8.0	TAWSN0059 TAWMN0059 TAWLN0059	TAWSN2300S25 TAWMN2300S25 TAWLN2300S25
	TAWNH2300T	●	23.0	10.3	8.0		
	TAWNH2350T	●	23.5	10.2	8.0	TAWSN0061 TAWMN0061 TAWLN0061	TAWSN2400S32 TAWMN2400S32 TAWLN2400S32
	TAWNH2400T	●	24.0	10.1	9.0		
	TAWNH2450T	●	24.5	11.7	9.0	TAWSN0100 TAWMN0100 TAWLN0100	TAWSN2500S32 TAWMN2500S32 TAWLN2500S32
	TAWNH2500T	●	25.0	11.6	9.0		
	TAWNH2550T	●	25.5	11.5	9.0	TAWSN0102 TAWMN0102 TAWLN0102	TAWSN2600S32 TAWMN2600S32 TAWLN2600S32
	TAWNH2600T	●	26.0	11.4	9.0		
	TAWNH2650T	●	26.5	11.3	9.0	TAWSN0105 TAWMN0105 TAWLN0105	TAWSN2700S32 TAWMN2700S32 TAWLN2700S32
	TAWNH2700T	●	27.0	11.2	9.0		
TAWNH2750T	●	27.5	12.3	10.0	TAWSN0107 TAWMN0107 TAWLN0107	TAWSN2800S32 TAWMN2800S32 TAWLN2800S32	
TAWNH2800T	●	28.0	12.2	10.0			
TAWNH2850T	●	28.5	12.1	10.0	TAWSN0110 TAWMN0110 TAWLN0110	TAWSN2900S32 TAWMN2900S32 TAWLN2900S32	
TAWNH2900T	●	29.0	12.0	10.0			
TAWNH2950T	●	29.5	11.9	10.0	TAWSN0112 TAWMN0112 TAWLN0112	TAWSN3000S32 TAWMN3000S32 TAWLN3000S32	
TAWNH3000T	●	30.0	11.8	10.0			


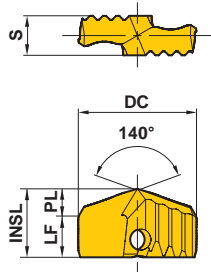
INSERTS

METRIC STANDARD

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		DP5010	DC	LF	S	Inch	Metric
For Cast Iron	TAWKH1400TG	▲	14.0	7.1	5.0		
	TAWKH1410TG	▲	14.1	7.1	5.0	TAWSNH0036	TAWSNH1400S16
	TAWKH1420TG	▲	14.2	7.1	5.0	TAWMNH0036	TAWMNH1400S16
	TAWKH1430TG	▲	14.3	7.1	5.0	TAWLNH0036	TAWLNH1400S16
	TAWKH1440TG	▲	14.4	7.1	5.0		
	TAWKH1450TG	▲	14.5	7.0	5.0		
	TAWKH1460TG	▲	14.6	7.0	5.0		
	TAWKH1470TG	▲	14.7	7.0	5.0	TAWSNH0037	
	TAWKH1480TG	▲	14.8	7.0	5.0	TAWMNH0037	
	TAWKH1490TG	▲	14.9	7.0	5.0	TAWLNH0037	TAWSNH1500S20
	TAWKH1500TG	▲	15.0	6.9	5.0	TAWSNH0039	TAWMNH1500S20
	TAWKH1510TG	▲	15.1	6.9	5.0	TAWMNH0039	TAWLNH1500S20
	TAWKH1520TG	▲	15.2	6.9	5.0		
	TAWKH1530TG	▲	15.3	6.9	5.0		
	TAWKH1540TG	▲	15.4	6.9	5.0		
	TAWKH1550TG	▲	15.5	7.3	6.0		
	TAWKH1560TG	▲	15.6	7.3	6.0		
	TAWKH1570TG	▲	15.7	7.3	6.0		
	TAWKH1580TG	▲	15.8	7.3	6.0	TAWSN0041	TAWSN1600S20
	TAWKH1590TG	▲	15.9	7.3	6.0	TAWMN0041	TAWMN1600S20
	TAWKH1600TG	▲	16.0	7.2	6.0	TAWLN0041	TAWLN1600S20
	TAWKH1610TG	▲	16.1	7.2	6.0		
	TAWKH1620TG	▲	16.2	7.2	6.0		
	TAWKH1630TG	▲	16.3	7.2	6.0		
	TAWKH1640TG	▲	16.4	7.2	6.0		
	TAWKH1650TG	▲	16.5	7.1	6.0		
	TAWKH1660TG	▲	16.6	7.1	6.0		
	TAWKH1670TG	▲	16.7	7.1	6.0		
	TAWKH1680TG	▲	16.8	7.1	6.0	TAWSN0044	TAWSN1700S20
	TAWKH1690TG	▲	16.9	7.1	6.0	TAWMN0044	TAWMN1700S20
	TAWKH1700TG	▲	17.0	7.0	6.0	TAWLN0044	TAWLN1700S20
	TAWKH1710TG	▲	17.1	7.0	6.0		
	TAWKH1720TG	▲	17.2	7.0	6.0		
	TAWKH1730TG	▲	17.3	7.0	6.0		
	TAWKH1740TG	▲	17.4	7.0	6.0		
	TAWKH1750TG	▲	17.5	6.8	6.0		
	TAWKH1760TG	▲	17.6	6.8	6.0		
	TAWKH1770TG	▲	17.7	6.8	6.0	TAWSN0045	
	TAWKH1780TG	▲	17.8	6.8	6.0	TAWMN0045	
	TAWKH1790TG	▲	17.9	6.8	6.0	TAWLN0045	TAWSN1800S20
TAWKH1800TG	▲	18.0	6.8	6.0	TAWSN0046	TAWMN1800S20	
TAWKH1810TG	▲	18.1	6.8	6.0	TAWMN0046	TAWLN1800S20	
TAWKH1820TG	▲	18.2	6.8	6.0	TAWLN0046		
TAWKH1830TG	▲	18.3	6.8	6.0			
TAWKH1840TG	▲	18.4	6.8	6.0			



★ : Inventory maintained in Japan. ▲ : This item to be discontinued within two years.

Geometry	Order Number	Stock	Dimensions (mm)			Applicable Holder	
		DP5010	DC	LF	S	Inch	Metric
 	TAWKH1850TG	★	18.5	8.6	7.0	TAWSN0049 TAWMN0049 TAWLN0049	TAWSN1900S25 TAWMN1900S25 TAWLN1900S25
	TAWKH1860TG	★	18.6	8.6	7.0		
	TAWKH1870TG	★	18.7	8.6	7.0		
	TAWKH1880TG	★	18.8	8.6	7.0		
	TAWKH1890TG	★	18.9	8.6	7.0		
	TAWKH1900TG	★	19.0	8.5	7.0		
	TAWKH1910TG	★	19.1	8.5	7.0		
	TAWKH1920TG	★	19.2	8.5	7.0		
	TAWKH1930TG	★	19.3	8.5	7.0		
	TAWKH1940TG	★	19.4	8.5	7.0		
	TAWKH1950TG	★	19.5	8.4	7.0	TAWSN0051 TAWMN0051 TAWLN0051	TAWSN2000S25 TAWMN2000S25 TAWLN2000S25
	TAWKH1960TG	★	19.6	8.4	7.0		
	TAWKH1970TG	★	19.7	8.4	7.0		
	TAWKH1980TG	★	19.8	8.4	7.0		
	TAWKH1990TG	★	19.9	8.4	7.0		
	TAWKH2000TG	★	20.0	8.3	7.0		
	TAWKH2050TG	★	20.5	8.2	7.0	TAWSN0054 TAWMN0054 TAWLN0054	TAWSN2100S25 TAWMN2100S25 TAWLN2100S25
	TAWKH2100TG	★	21.0	8.1	7.0		
	TAWKH2150TG	★	21.5	9.8	8.0	TAWSN0056 TAWMN0056 TAWLN0056	TAWSN2200S25 TAWMN2200S25 TAWLN2200S25
	TAWKH2200TG	★	22.0	9.7	8.0		
	TAWKH2250TG	★	22.5	9.6	8.0	TAWSN0059 TAWMN0059 TAWLN0059	TAWSN2300S25 TAWMN2300S25 TAWLN2300S25
	TAWKH2300TG	★	23.0	9.5	8.0		
	TAWKH2350TG	★	23.5	9.4	8.0	TAWSN0061 TAWMN0061 TAWLN0061	TAWSN2400S32 TAWMN2400S32 TAWLN2400S32
	TAWKH2400TG	★	24.0	9.3	9.0		
	TAWKH2450TG	★	24.5	10.8	9.0	TAWSN0100 TAWMN0100 TAWLN0100	TAWSN2500S32 TAWMN2500S32 TAWLN2500S32
	TAWKH2500TG	★	25.0	10.7	9.0		
	TAWKH2550TG	★	25.5	10.6	9.0	TAWSN0102 TAWMN0102 TAWLN0102	TAWSN2600S32 TAWMN2600S32 TAWLN2600S32
	TAWKH2600TG	★	26.0	10.5	9.0		
	TAWKH2650TG	★	26.5	10.4	9.0	TAWSN0105 TAWMN0105 TAWLN0105	TAWSN2700S32 TAWMN2700S32 TAWLN2700S32
	TAWKH2700TG	★	27.0	10.3	9.0		
	TAWKH2750TG	★	27.5	11.3	10.0	TAWSN0107 TAWMN0107 TAWLN0107	TAWSN2800S32 TAWMN2800S32 TAWLN2800S32
	TAWKH2800TG	★	28.0	11.2	10.0		
	TAWKH2850TG	★	28.5	11.1	10.0	TAWSN0110 TAWMN0110 TAWLN0110	TAWSN2900S32 TAWMN2900S32 TAWLN2900S32
TAWKH2900TG	★	29.0	11.0	10.0			
TAWKH2950TG	★	29.5	10.9	10.0	TAWSN0112 TAWMN0112 TAWLN0112	TAWSN3000S32 TAWMN3000S32 TAWLN3000S32	
TAWKH3000TG	★	30.0	10.8	10.0			

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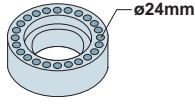
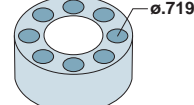
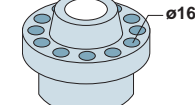
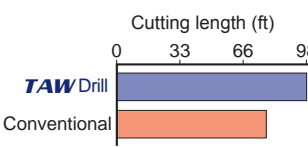
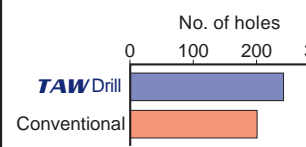
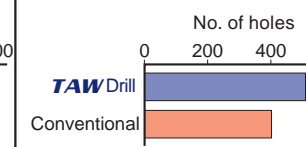
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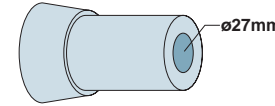
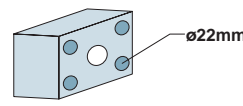
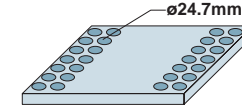
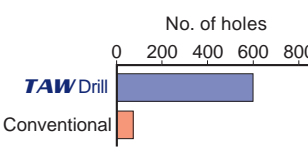
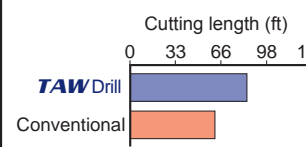
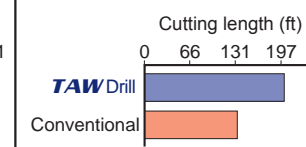
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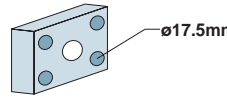
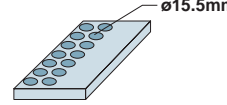
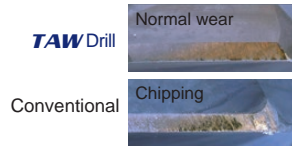
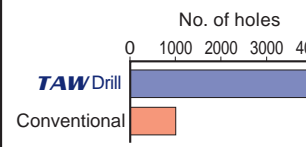
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APPLICATION EXAMPLES

Holder		TAWSN2400S32	TAWMN0046	TAWSN1600S20
Insert (Grade)		TAWNH2400T (VP15TF)	TAWNH0046T (VP15TF)	TAWN1610T (VP15TF)
Work piece		AISI 1050 	Carbon Steel (200HB) 	Carbon Steel 
Component		Ring	Ring gear	Machine parts
Cutting Conditions	Cutting Speed (SFM)	295	230	260
	Feed (IPR)	.012	.012	.012
	Penetration Rate (inch/min)	14.1	14.6	18.7
Cutting mode		Mist coolant	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)
Machine Type		Machining center	Machining center	Machining center
Result				

Holder		TAWSN2700S32	TAWLN2200S25	TAWSB2500S32
Insert (Grade)		TAWN2700T (VP15TF)	TAWN2200T (VP15TF)	TAWB2470T (VP15TF)
Work piece		Alloy Steel 	AISI 60-40-18 	Alloy Steel 
Component		Tube	Steel for bridges	Steel for bridges
Cutting Conditions	Cutting Speed (SFM)	260	230	195
	Feed (IPR)	.012	.008	.012
	Penetration Rate (inch/min)	11.1	8	9.1
Cutting mode		Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)	Mist coolant
Machine Type		NC lathe	Machining center	Gundrill machine
Result				

Holder		TAWSN1800S20	TAWSN1600S20
Insert (Grade)		TAWKH1750TG (DP5010)	TAWKH1550TG (DP5010)
Work piece		AISI No35 B 	AISI No35 B 
Component		Machine parts	Machine parts
Cutting Conditions	Cutting Speed (SFM)	390	240
	Feed (IPR)	.010	.008
	Penetration Rate (inch/min)	21.5	11.8
Cutting mode		Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)
Machine Type		Machining center	Machining center
Result			



Indexable Type Drill
WSTAR Insert Type Drill
STAW/TAW

For your safety

●Don't touch breakers and chips without gloves. ●Please machine within recommended application range, and exchange expired tools with new parts in advance. ●Please use safety cover and wear safety glasses. ●When using compounded cutting oils, please take fire prevention. ●When attaching chips or spare parts, please use the attached wrench or driver. ●When using tools in revolution machining, please make a trial run to check run-out, vibration, abnormal sounds etc.

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MITSUBISHI MATERIALS U.S.A. CORPORATION

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(Tools specifications subject to change without notice.)

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