

Head Exchangeable Type Carbide Drill  
**WSTAR** Insert Drill Series

**TAW**

New  
Inserts

**Stable performance  
from a versatile, changeable  
insert type drill**



# Head Exchangeable Type Carbide Drill

## **WSTAR** Insert Type Drill

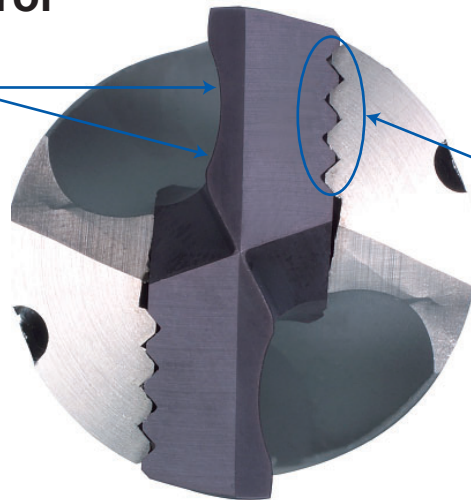
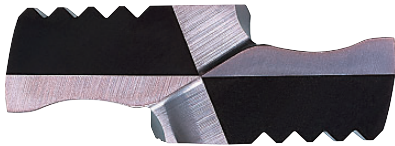
# TAW

## Designed for extreme sharpness and accuracy

### Wave type cutting edge for superior chip control

#### Wave cutting edge

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



Cutting edge shape

### Serrated insert clamping geometry

#### Unique serration geometry

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

## Insert grade

### **VP15TF** General purpose insert grade

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



### **DP5010** Cast iron insert grade

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



## High durability body

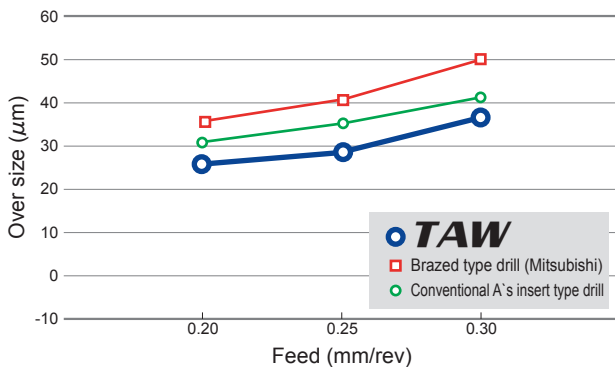
The cutter bodies are made resistant to corrosion and abrasion by using a superior, high heat resistant alloy and a special surface treatment.



# Cutting Performance

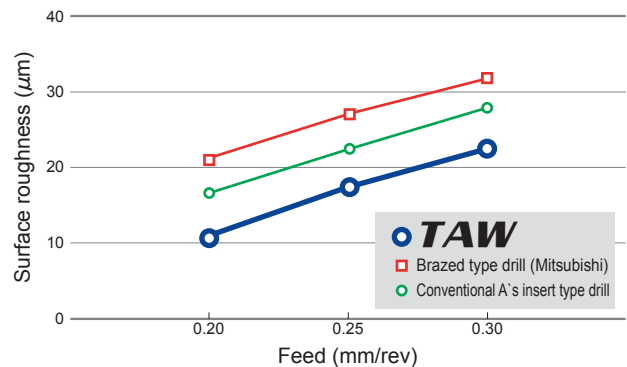
## Steel Drilling

### Over Size



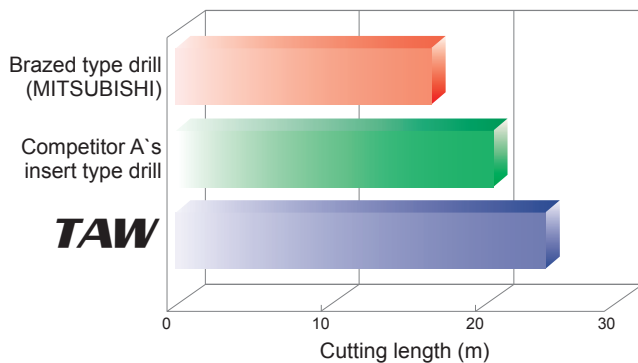
<Cutting conditions>  
 Workpiece : JIS S50C (150—180HB)  
 Drill diameter :  $\phi 20$  (L/D=5)  
 Cutting speed : 80m/min  
 Coolant : Emulsion 10%  
 Pressure : 0.5MPa (Internal coolant)

### Surface Roughness



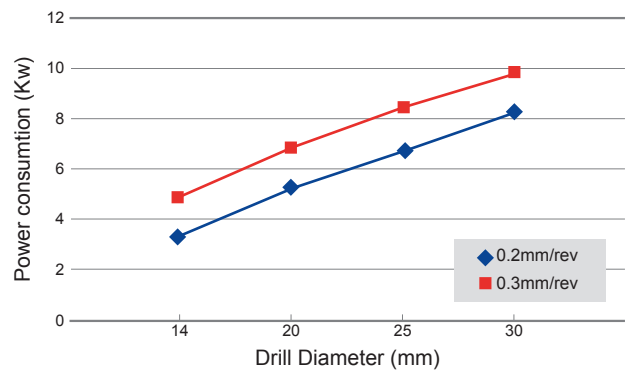
<Cutting conditions>  
 Workpiece : JIS S50C (150—180HB)  
 Drill diameter :  $\phi 20$  (L/D=5)  
 Cutting speed : 80m/min  
 Coolant : Emulsion 10%  
 Pressure : 0.5MPa (Internal coolant)

### Insert Life



<Cutting conditions>  
 Workpiece : JIS S50C (150—180HB) Coolant : Emulsion 10%  
 Drill diameter :  $\phi 20$  (L/D=5) Pressure : 0.5MPa (Internal coolant)  
 Cutting speed : 100m/min  
 Feed : 0.25mm/rev

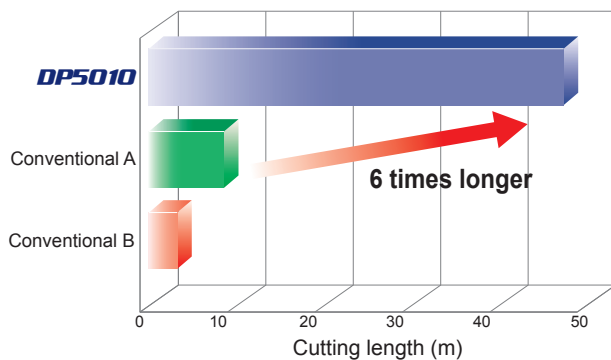
### Power Consumption



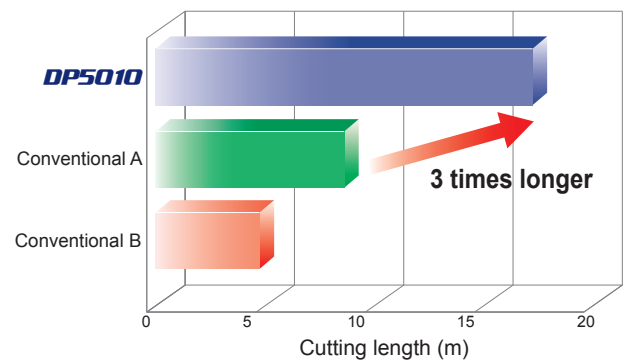
<Cutting conditions>  
 Workpiece : JIS S50C (150—180HB)  
 Cutting speed : 80m/min  
 Coolant : Emulsion 10%  
 Pressure : 0.5MPa (Internal coolant)

## Castiron/Ductile cast iron Drilling

### Insert Life



<Cutting conditions>  
 Workpiece : JIS FC250 Coolant : Emulsion 10%  
 Drill diameter :  $\phi 18$  (L/D=3) Pressure : 0.5MPa (Internal coolant)  
 Cutting speed : 140m/min  
 Feed : 0.4mm/rev

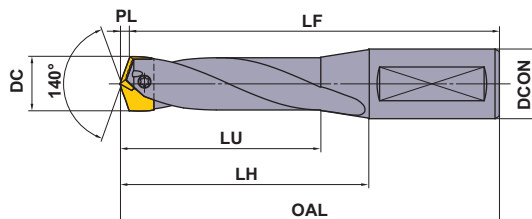


<Cutting conditions>  
 Workpiece : JIS FCD450 Coolant : Emulsion 10%  
 Drill diameter :  $\phi 18$  (L/D=3) Pressure : 0.5MPa (Internal coolant)  
 Cutting speed : 100m/min  
 Feed : 0.3mm/rev

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



(General Use)



**HOLDERS**





DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)						Clamp Screw	Wrench	Plate	Anti-seize Lubricant	Insert					
		Order Number	Stock	LU	LH	OAL	LF	PL	DCON					DC (mm)	Order Number	Stock			
															VP15TF	DP5010	VP10H		
18.5   19.4	3	TAWSN1900S25	●	71.4	102.4	158.4	155	3.4	25	WS304517T	TKY10T	WPT4405	MK1KS	18.5	TAWNH1850T	●		<input type="checkbox"/>	
															TAWKH1850TG		●	<input type="checkbox"/>	
														18.6	TAWNH1860T	●		<input type="checkbox"/>	
															TAWKH1860TG		●	<input type="checkbox"/>	
		5	TAWMN1900S25	●	110.4	137.4	193.4	190	3.4	25	WS304517T	TKY10T	WPT4405	MK1KS	18.7	TAWNH1870T	●		<input type="checkbox"/>
															TAWKH1870TG		●	<input type="checkbox"/>	
		8	TAWLN1900S25	●	165.5	188.5	244.5	241	3.5	25	WS304517T	TKY10T	WPT4405	MK1KS	18.8	TAWNH1880T	●		<input type="checkbox"/>
															TAWKH1880TG		●	<input type="checkbox"/>	
	18.9														TAWNH1890T	●		<input type="checkbox"/>	
															TAWKH1890TG		●	<input type="checkbox"/>	
		5	TAWMN2000S25	●	116.6	142.6	198.6	195	3.6	25	WS304518T	TKY10T	WPT4405	MK1KS	19.0	TAWNH1900T	●		<input type="checkbox"/>
															TAWKH1900TG		●	<input type="checkbox"/>	
19.1	TAWNH1910T														●		<input type="checkbox"/>		
	TAWKH1910TG															●	<input type="checkbox"/>		
	8	TAWLN2000S25	●	173.7	196.7	252.7	249	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	19.2	TAWNH1920T	●		<input type="checkbox"/>	
														TAWKH1920TG		●	<input type="checkbox"/>		
19.3														TAWNH1930T	●		<input type="checkbox"/>		
														TAWKH1930TG		●	<input type="checkbox"/>		
19.5   20.4	3	TAWSN2000S25	●	75.5	102.5	158.5	155	3.5	25	WS304518T	TKY10T	WPT4405	MK1KS	19.4	TAWNH1940T	●		<input type="checkbox"/>	
															TAWKH1940TG		●	<input type="checkbox"/>	
														19.5	TAWNH1950T	●		<input type="checkbox"/>	
															TAWKH1950TG		●	<input type="checkbox"/>	
		5	TAWMN2000S25	●	116.6	142.6	198.6	195	3.6	25	WS304518T	TKY10T	WPT4405	MK1KS	19.6	TAWNH1960T	●		<input type="checkbox"/>
															TAWKH1960TG		●	<input type="checkbox"/>	
	19.7														TAWNH1970T	●		<input type="checkbox"/>	
															TAWKH1970TG		●	<input type="checkbox"/>	
		8	TAWLN2000S25	●	173.7	196.7	252.7	249	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	19.8	TAWNH1980T	●		<input type="checkbox"/>
															TAWKH1980TG		●	<input type="checkbox"/>	
	19.9														TAWNH1990T	●		<input type="checkbox"/>	
															TAWKH1990TG		●	<input type="checkbox"/>	
	5	TAWMN2000S25	●	116.6	142.6	198.6	195	3.6	25	WS304518T	TKY10T	WPT4405	MK1KS	20.0	TAWNH2000T	●		<input type="checkbox"/>	
														TAWKH2000TG		●	<input type="checkbox"/>		
20.1														TAWNH2010T	<input type="checkbox"/>		<input type="checkbox"/>		
														TAWKH2010TG		<input type="checkbox"/>	<input type="checkbox"/>		
	8	TAWLN2000S25	●	173.7	196.7	252.7	249	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	20.2	TAWNH2020T	<input type="checkbox"/>		<input type="checkbox"/>	
														TAWKH2020TG		<input type="checkbox"/>	<input type="checkbox"/>		
20.3														TAWNH2030T	<input type="checkbox"/>		<input type="checkbox"/>		
														TAWKH2030TG		<input type="checkbox"/>	<input type="checkbox"/>		
	5	TAWMN2000S25	●	116.6	142.6	198.6	195	3.6	25	WS304518T	TKY10T	WPT4405	MK1KS	20.4	TAWNH2040T	<input type="checkbox"/>		<input type="checkbox"/>	
														TAWKH2040TG		<input type="checkbox"/>	<input type="checkbox"/>		

(Note 1) The dimensions in brackets represent the sizes when TAWNH type inserts are used.  
 (Note 2) Please contact us for any geometry that is not in this catalogue (e.g. different diameter and length).  
 (Note 3) Holder of ø14.0-ø18.4 were discontinued in March 2015.  
 Please use the S-TAW(TOOLS NEWS B167) as an alternative.

DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)					Clamp Screw	Wrench	Plate	Anti-seize Lubricant	Insert						
		Order Number	Stock	LU	LH	OAL	LF	PL					DCON	DC (mm)	Order Number	Stock			
																VP15TF	DP5010	VP10H	
20.5   21.4	3	TAWSN2100S25	●	78.7	102.7	158.7	155.0	3.7	25	WS304518T	TKY10T	WPT4405	MK1KS	20.5	TAWN2050T	●			
															TAWKH2050TG		●		
														20.6	TAWN2060T				
															TAWKH2060TG				
		20.7	TAWN2070T																
																			TAWKH2070TG
		20.8	TAWN2080T																
		20.9	TAWN2090T																
		21.0	TAWN2100T	●															
	21.1	TAWN2110T																	
																			TAWKH2110TG
	21.2	TAWN2120T																	
																			TAWKH2120TG
	21.3	TAWN2130T																	
																			TAWKH2130TG
	21.4	TAWN2140T																	
																			TAWKH2140TG
	21.5	TAWN2150T	●																
																			TAWKH2150TG
	21.6	TAWN2160T																	
																			TAWKH2160TG
	21.7	TAWN2170T																	
																			TAWKH2170TG
	21.8	TAWN2180T																	
																			TAWKH2180TG
	21.9	TAWN2190T																	
																			TAWKH2190TG
	22.0	TAWN2200T	●																
																			TAWKH2200TG
	22.1	TAWN2210T																	
																			TAWKH2210TG
	22.2	TAWN2220T																	
																			TAWKH2220TG
	22.3	TAWN2230T																	
																			TAWKH2230TG
	22.4	TAWN2240T																	
																			TAWKH2240TG
	22.5	TAWN2250T	●																
																			TAWKH2250TG
	22.6	TAWN2260T																	
																			TAWKH2260TG
	22.7	TAWN2270T																	
																			TAWKH2270TG
	22.8	TAWN2280T																	
																			TAWKH2280TG
	22.9	TAWN2290T																	
																			TAWKH2290TG
	23.0	TAWN2300T	●																
																			TAWKH2300TG
	23.1	TAWN2310T																	
																			TAWKH2310TG
	23.2	TAWN2320T																	
																			TAWKH2320TG
	23.3	TAWN2330T																	
																			TAWKH2330TG
	23.4	TAWN2340T																	
																			TAWKH2340TG





DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)										Insert				
		Order Number	Stock	LU	LH	OAL	LF	PL	DCON					DC (mm)	Order Number	Stock		
																VP15TF	DP5010	VP10H
23.5   24.4	3	TAWSN2400S32	●	90.6	114.6	174.6	170.3	4.3	32	WS355521T	TKY15T	WPT4405	MK1KS	23.5	TAWNH2350T	●		□
															TAWKH2350TG		●	
														23.6	TAWNH2360T	□		□
															TAWKH2360TG		□	
														23.7	TAWNH2370T	□		□
															TAWKH2370TG		□	
	23.8	TAWNH2380T	□		□													
		TAWKH2380TG		□														
	5	TAWMN2400S32	●	139.6	164.6	224.6	220.3	4.3	32	WS355521T	TKY15T	WPT4405	MK1KS	23.9	TAWNH2390T	□		□
															TAWKH2390TG		□	
														24.0	TAWNH2400T	●		□
															TAWKH2400TG		●	
24.1														TAWNH2410T	□		□	
														TAWKH2410TG		□		
24.2	TAWNH2420T	□		□														
	TAWKH2420TG		□															
8	TAWLN2400S32	●	206.4	236.4	296.4	292.0	4.4	32	WS355521T	TKY15T	WPT4405	MK1KS	24.3	TAWNH2430T	□		□	
														TAWKH2430TG		□		
													24.4	TAWNH2440T	□		□	
														TAWKH2440TG		□		
													24.5	TAWNH2450T	●		□	
														TAWKH2450TG		●		
24.6	TAWNH2460T	□		□														
	TAWKH2460TG		□															
24.5   25.4	3	TAWSN2500S32	●	93.1	115.1	175.1	170.6	4.5	32	WS406023T	TKY25T	WPT4405	MK1KS	24.7	TAWNH2470T	□		□
															TAWKH2470TG		□	
														24.8	TAWNH2480T	□		□
															TAWKH2480TG		□	
														24.9	TAWNH2490T	□		□
															TAWKH2490TG		□	
	25.0	TAWNH2500T	●		□													
		TAWKH2500TG		●														
	25.1	TAWNH2510T	□		□													
		TAWKH2510TG		□														
	5	TAWMN2500S32	●	145.1	170.1	230.1	225.6	4.5	32	WS406023T	TKY25T	WPT4405	MK1KS	25.2	TAWNH2520T	□		□
															TAWKH2520TG		□	
25.3														TAWNH2530T	□		□	
														TAWKH2530TG		□		
25.4														TAWNH2540T	□		□	
														TAWKH2540TG		□		
8	TAWLN2500S32	●	214.6	244.6	304.6	300.0	4.6	32	WS406023T	TKY25T	WPT4405	MK1KS	25.5	TAWNH2550T	●		□	
														TAWKH2550TG		●		
25.5   26.4	3	TAWSN2600S32	●	97.2	120.2	180.2	175.6	4.6	32	WS406024T	TKY25T	WPT4405	MK1KS	25.6	TAWNH2560T	□		□
															TAWKH2560TG		□	
														25.7	TAWNH2570T	□		□
															TAWKH2570TG		□	
														25.8	TAWNH2580T	□		□
															TAWKH2580TG		□	
	25.9	TAWNH2590T	□		□													
		TAWKH2590TG		□														
	5	TAWMN2600S32	●	151.3	175.3	235.3	230.6	4.7	32	WS406024T	TKY25T	WPT4405	MK1KS	26.0	TAWNH2600T	●		□
															TAWKH2600TG		●	
														26.1	TAWNH2610T	□		□
															TAWKH2610TG		□	
26.2														TAWNH2620T	□		□	
														TAWKH2620TG		□		
8	TAWLN2600S32	●	222.8	252.8	312.8	308.0	4.8	32	WS406024T	TKY25T	WPT4405	MK1KS	26.3	TAWNH2630T	□		□	
														TAWKH2630TG		□		
26.4	TAWNH2640T	□		□														
	TAWKH2640TG		□															

(Note 1) The dimensions in brackets represent the sizes when TAWNH type inserts are used.





(Note 2) Please contact us for any geometry that is not in this catalogue (e.g. different diameter and length).

(Note 3) Holder of  $\varnothing 14.0$ - $\varnothing 18.4$  were discontinued in March 2015.

Please use the S-TAW(TOOLS NEWS B167) as an alternative.

DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)					Clamp Screw	Wrench	Plate	Anti-seize Lubricant	Insert					
		Order Number	Stock	LU	LH	OAL	LF	PL					DCON	DC (mm)	Order Number	Stock		
																VP15TF	DP5010	VP10H
26.5   27.4	3	TAWSN2700S32	●	99.4	120.4	180.4	175.6	4.8	32	WS406024T	TKY25T	WPT4405	MK1KS	26.5	TAWN2650T	●		□
															TAWKH2650TG		●	
														26.6	TAWN2660T	□		□
															TAWKH2660TG		□	
														26.7	TAWN2670T	□		□
															TAWKH2670TG		□	
	5	TAWMN2700S32	●	156.5	180.5	240.5	235.6	4.9	32	WS406024T	TKY25T	WPT4405	MK1KS	26.8	TAWN2680T	□		□
															TAWKH2680TG		□	
														26.9	TAWN2690T	□		□
															TAWKH2690TG		□	
														27.0	TAWN2700T	●		□
															TAWKH2700TG		●	
8	TAWLN2700S32	●	230.9	260.9	320.9	316.0	4.9	32	WS406024T	TKY25T	WPT4405	MK1KS	27.1	TAWN2710T	□		□	
														TAWKH2710TG		□		
													27.2	TAWN2720T	□		□	
														TAWKH2720TG		□		
													27.3	TAWN2730T	□		□	
														TAWKH2730TG		□		
27.5   28.4	3	TAWSN2800S32	●	102.2	125.2	185.2	180.2	5.0	32	WS508026T	TKY27T	WPT4405	MK1KS	27.4	TAWN2740T	□		□
															TAWKH2740TG		□	
														27.5	TAWN2750T	●		□
															TAWKH2750TG		●	
														27.6	TAWN2760T	□		□
															TAWKH2760TG		□	
	5	TAWMN2800S32	●	162.3	185.3	245.3	240.2	5.1	32	WS508026T	TKY27T	WPT4405	MK1KS	27.7	TAWN2770T	□		□
															TAWKH2770TG		□	
														27.8	TAWN2780T	□		□
															TAWKH2780TG		□	
														27.9	TAWN2790T	□		□
															TAWKH2790TG		□	
8	TAWLN2800S32	●	239.1	269.1	329.1	324.0	5.1	32	WS508026T	TKY27T	WPT4405	MK1KS	28.0	TAWN2800T	●		□	
														TAWKH2800TG		●		
													28.1	TAWN2810T	□		□	
														TAWKH2810TG		□		
													28.2	TAWN2820T	□		□	
														TAWKH2820TG		□		
28.5   29.4	3	TAWSN2900S32	●	105.4	130.4	190.4	185.2	5.2	32	WS508027T	TKY27T	WPT4405	MK1KS	28.3	TAWN2830T	□		□
															TAWKH2830TG		□	
														28.4	TAWN2840T	□		□
															TAWKH2840TG		□	
														28.5	TAWN2850T	●		□
															TAWKH2850TG		●	
	5	TAWMN2900S32	●	167.4	190.4	250.4	245.2	5.2	32	WS508027T	TKY27T	WPT4405	MK1KS	28.6	TAWN2860T	□		□
															TAWKH2860TG		□	
														28.7	TAWN2870T	□		□
															TAWKH2870TG		□	
														28.8	TAWN2880T	□		□
															TAWKH2880TG		□	
8	TAWLN2900S32	●	247.3	277.3	337.3	332.0	5.3	32	WS508027T	TKY27T	WPT4405	MK1KS	28.9	TAWN2890T	□		□	
														TAWKH2890TG		□		
													29.0	TAWN2900T	●		□	
														TAWKH2900TG		●		
													29.1	TAWN2910T	□		□	
														TAWKH2910TG		□		
29.2	TAWLN2920S32	●	247.3	277.3	337.3	332.0	5.3	32	WS508027T	TKY27T	WPT4405	MK1KS	29.2	TAWN2920T	□		□	
														TAWKH2920TG		□		
													29.3	TAWN2930T	□		□	
														TAWKH2930TG		□		
29.4	TAWN2940T	□		□														
	TAWKH2940TG		□															



DC (mm)	Hole Depth (l/d)	Holder		Dimensions (mm)						 Clamp Screw	 Wrench	 Plate	 Anti-seize Lubricant	Insert				
		Order Number	Stock	LU	LH	OAL	LF	PL	DCON					DC (mm)	Order Number	Stock		
																VP15TF	DP5010	VP10H
29.5   30.4	3	TAWSN3000S32	●	109.6	130.6	190.6	185.2	5.4	32	WS508027T	TKY27T	WPT4405	MK1KS	29.5	TAWN2950T	●		
															TAWKH2950TG		●	
														29.6	TAWN2960T			
		TAWKH2960TG																
		29.7	TAWN2970T															
		TAWKH2970TG																
		29.8	TAWN2980T															
		TAWKH2980TG																
		29.9	TAWN2990T															
		TAWKH2990TG																
		30.0	TAWN3000T	●														
		TAWKH3000TG		●														
		30.1	TAWN3010T															
		TAWKH3010TG																
		30.2	TAWN3020T															
	TAWKH3020TG																	
	30.3	TAWN3030T																
	TAWKH3030TG																	
	30.4	TAWN3040T																
	TAWKH3040TG																	

(Note 1) The dimensions in brackets represent the sizes when TAWN type inserts are used.

(Note 2) Please contact us for any geometry that is not in this catalogue (e.g. different diameter and length).

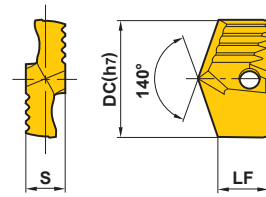
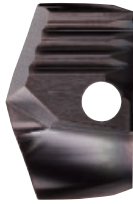
(Note 3) Holder of  $\varnothing 14.0$ - $\varnothing 18.4$  were discontinued in March 2015.

Please use the S-TAW(TOOLS NEWS B167) as an alternative.



# INSERTS

## H Type



Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	DC	LF	S	
TAWNH1400T	▲		14.0	7.6	5.0	TAWSNH 1400S16
TAWNH1410T	▲		14.1	7.6	5.0	TAWMNH 1400S16
TAWNH1420T	▲		14.2	7.6	5.0	TAWLNH 1400S16
TAWNH1430T	▲		14.3	7.6	5.0	
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	TAWSNH 1500S20
TAWNH1480T	▲		14.8	7.5	5.0	
TAWNH1490T	▲		14.9	7.5	5.0	TAWMNH 1500S20
TAWNH1500T	▲		15.0	7.4	5.0	
TAWNH1510T	▲		15.1	7.4	5.0	TAWLNH 1500S20
TAWNH1520T	▲		15.2	7.4	5.0	
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	TAWSN 1600S20
TAWNH1580T	▲		15.8	7.9	6.0	
TAWNH1590T	▲		15.9	7.9	6.0	TAWMN 1600S20
TAWNH1600T	▲		16.0	7.8	6.0	
TAWNH1610T	▲		16.1	7.8	6.0	TAWLN 1600S20
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	TAWSN 1700S20
TAWNH1680T	▲		16.8	7.7	6.0	
TAWNH1690T	▲		16.9	7.7	6.0	TAWMN 1700S20
TAWNH1700T	▲		17.0	7.6	6.0	
TAWNH1710T	▲		17.1	7.6	6.0	TAWLN 1700S20
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	TAWSN 1800S20
TAWNH1780T	▲		17.8	7.5	6.0	
TAWNH1790T	▲		17.9	7.5	6.0	TAWMN 1800S20
TAWNH1800T	▲		18.0	7.4	6.0	
TAWNH1810T	▲		18.1	7.4	6.0	TAWLN 1800S20
TAWNH1820T	▲		18.2	7.4	6.0	
TAWNH1830T	▲		18.3	7.4	6.0	
TAWNH1840T	▲		18.4	7.4	6.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	DC	LF	S	
TAWNH1850T	●	□	18.5	9.3	7.0	
TAWNH1860T	●	□	18.6	9.3	7.0	
TAWNH1870T	●	□	18.7	9.3	7.0	TAWSN 1900S25
TAWNH1880T	●	□	18.8	9.3	7.0	
TAWNH1890T	●	□	18.9	9.3	7.0	TAWMN 1900S25
TAWNH1900T	●	□	19.0	9.2	7.0	
TAWNH1910T	●	□	19.1	9.2	7.0	TAWLN 1900S25
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	
TAWNH1960T	●	□	19.6	9.1	7.0	
TAWNH1970T	●	□	19.7	9.1	7.0	TAWSN 2000S25
TAWNH1980T	●	□	19.8	9.1	7.0	
TAWNH1990T	●	□	19.9	9.1	7.0	TAWMN 2000S25
TAWNH2000T	●	□	20.0	9.0	7.0	
TAWNH2010T	□	□	20.1	9.0	7.0	TAWLN 2000S25
TAWNH2020T	□	□	20.2	9.0	7.0	
TAWNH2030T	□	□	20.3	9.0	7.0	
TAWNH2040T	□	□	20.4	9.0	7.0	
TAWNH2050T	●	□	20.5	8.9	7.0	
TAWNH2060T	□	□	20.6	8.9	7.0	
TAWNH2070T	□	□	20.7	8.9	7.0	TAWSN 2100S25
TAWNH2080T	□	□	20.8	8.9	7.0	
TAWNH2090T	□	□	20.9	8.9	7.0	TAWMN 2100S25
TAWNH2100T	●	□	21.0	8.8	7.0	
TAWNH2110T	□	□	21.1	8.8	7.0	TAWLN 2100S25
TAWNH2120T	□	□	21.2	8.8	7.0	
TAWNH2130T	□	□	21.3	8.8	7.0	
TAWNH2140T	□	□	21.4	8.8	7.0	
TAWNH2150T	●	□	21.5	10.6	8.0	
TAWNH2160T	□	□	21.6	10.6	8.0	
TAWNH2170T	□	□	21.7	10.6	8.0	TAWSN 2200S25
TAWNH2180T	□	□	21.8	10.6	8.0	
TAWNH2190T	□	□	21.9	10.6	8.0	TAWMN 2200S25
TAWNH2200T	●	□	22.0	10.5	8.0	
TAWNH2210T	□	□	22.1	10.5	8.0	TAWLN 2200S25
TAWNH2220T	□	□	22.2	10.5	8.0	
TAWNH2230T	□	□	22.3	10.5	8.0	
TAWNH2240T	□	□	22.4	10.5	8.0	
TAWNH2250T	●	□	22.5	10.4	8.0	TAWSN 2300S25
TAWNH2260T	□	□	22.6	10.4	8.0	TAWMN 2300S25
TAWNH2270T	□	□	22.7	10.4	8.0	
TAWNH2280T	□	□	22.8	10.4	8.0	TAWLN 2300S25
TAWNH2290T	□	□	22.9	10.4	8.0	

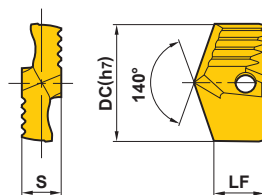
● : Inventory maintained in Japan. □ : Non stock, produced to order only.

▲ : Inventory maintained in Japan. To be replaced by new products. (Holder of ø14.0-ø18.4 were discontinued in March 2015.)

(1 insert in one case)

## INSERTS

### H Type



Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	DC	LF	S	
TAWNH2300T	●	□	23.0	10.3	8.0	TAWSN 2300S25
TAWNH2310T	□	□	23.1	10.3	8.0	
TAWNH2320T	□	□	23.2	10.3	8.0	TAWMN 2300S25
TAWNH2330T	□	□	23.3	10.3	8.0	
TAWNH2340T	□	□	23.4	10.3	8.0	TAWLN 2300S25
TAWNH2350T	●	□	23.5	10.2	8.0	
TAWNH2360T	□	□	23.6	10.2	8.0	TAWSN 2400S32
TAWNH2370T	□	□	23.7	10.2	8.0	
TAWNH2380T	□	□	23.8	10.2	8.0	TAWMN 2400S32
TAWNH2390T	□	□	23.9	10.2	8.0	
TAWNH2400T	●	□	24.0	10.1	8.0	TAWLN 2400S32
TAWNH2410T	□	□	24.1	10.1	8.0	
TAWNH2420T	□	□	24.2	10.1	8.0	TAWSN 2500S32
TAWNH2430T	□	□	24.3	10.1	8.0	
TAWNH2440T	□	□	24.4	10.1	8.0	TAWMN 2500S32
TAWNH2450T	●	□	24.5	11.7	9.0	
TAWNH2460T	□	□	24.6	11.7	9.0	TAWLN 2500S32
TAWNH2470T	□	□	24.7	11.7	9.0	
TAWNH2480T	□	□	24.8	11.7	9.0	TAWSN 2600S32
TAWNH2490T	□	□	24.9	11.7	9.0	
TAWNH2500T	●	□	25.0	11.6	9.0	TAWMN 2600S32
TAWNH2510T	□	□	25.1	11.6	9.0	
TAWNH2520T	□	□	25.2	11.6	9.0	TAWLN 2600S32
TAWNH2530T	□	□	25.3	11.6	9.0	
TAWNH2540T	□	□	25.4	11.6	9.0	TAWSN 2700S32
TAWNH2550T	●	□	25.5	11.5	9.0	
TAWNH2560T	□	□	25.6	11.5	9.0	TAWMN 2700S32
TAWNH2570T	□	□	25.7	11.5	9.0	
TAWNH2580T	□	□	25.8	11.5	9.0	TAWLN 2700S32
TAWNH2590T	□	□	25.9	11.5	9.0	
TAWNH2600T	●	□	26.0	11.4	9.0	TAWSN 2700S32
TAWNH2610T	□	□	26.1	11.4	9.0	
TAWNH2620T	□	□	26.2	11.4	9.0	TAWMN 2700S32
TAWNH2630T	□	□	26.3	11.4	9.0	
TAWNH2640T	□	□	26.4	11.4	9.0	TAWLN 2700S32
TAWNH2650T	●	□	26.5	11.3	9.0	
TAWNH2660T	□	□	26.6	11.3	9.0	TAWSN 2700S32
TAWNH2670T	□	□	26.7	11.3	9.0	
TAWNH2680T	□	□	26.8	11.3	9.0	TAWMN 2700S32
TAWNH2690T	□	□	26.9	11.3	9.0	
TAWNH2700T	●	□	27.0	11.2	9.0	TAWLN 2700S32
TAWNH2710T	□	□	27.1	11.2	9.0	
TAWNH2720T	□	□	27.2	11.2	9.0	TAWSN 2700S32
TAWNH2730T	□	□	27.3	11.2	9.0	
TAWNH2740T	□	□	27.4	11.2	9.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	DC	LF	S	
TAWNH2750T	●	□	27.5	12.3	10.0	TAWSN 2800S32
TAWNH2760T	□	□	27.6	12.3	10.0	
TAWNH2770T	□	□	27.7	12.3	10.0	TAWMN 2800S32
TAWNH2780T	□	□	27.8	12.3	10.0	
TAWNH2790T	□	□	27.9	12.3	10.0	TAWLN 2800S32
TAWNH2800T	●	□	28.0	12.2	10.0	
TAWNH2810T	□	□	28.1	12.2	10.0	TAWSN 2900S32
TAWNH2820T	□	□	28.2	12.2	10.0	
TAWNH2830T	□	□	28.3	12.2	10.0	TAWMN 2900S32
TAWNH2840T	□	□	28.4	12.2	10.0	
TAWNH2850T	●	□	28.5	12.1	10.0	TAWLN 2900S32
TAWNH2860T	□	□	28.6	12.1	10.0	
TAWNH2870T	□	□	28.7	12.1	10.0	TAWSN 3000S32
TAWNH2880T	□	□	28.8	12.1	10.0	
TAWNH2890T	□	□	28.9	12.1	10.0	TAWMN 3000S32
TAWNH2900T	●	□	29.0	12.0	10.0	
TAWNH2910T	□	□	29.1	12.0	10.0	TAWLN 3000S32
TAWNH2920T	□	□	29.2	12.0	10.0	
TAWNH2930T	□	□	29.3	12.0	10.0	TAWSN 3000S32
TAWNH2940T	□	□	29.4	12.0	10.0	
TAWNH2950T	●	□	29.5	11.9	10.0	TAWMN 3000S32
TAWNH2960T	□	□	29.6	11.9	10.0	
TAWNH2970T	□	□	29.7	11.9	10.0	TAWLN 3000S32
TAWNH2980T	□	□	29.8	11.9	10.0	
TAWNH2990T	□	□	29.9	11.9	10.0	TAWSN 3000S32
TAWNH3000T	●	□	30.0	11.8	10.0	
TAWNH3010T	□	□	30.1	11.8	10.0	TAWMN 3000S32
TAWNH3020T	□	□	30.2	11.8	10.0	
TAWNH3030T	□	□	30.3	11.8	10.0	TAWLN 3000S32
TAWNH3040T	□	□	30.4	11.8	10.0	

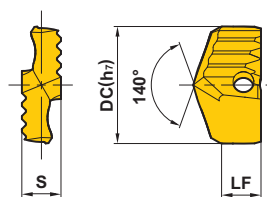
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▲ : Inventory maintained in Japan. To be replaced by new products. (Holder of ø14.0-ø18.4 were discontinued in March 2015.)

(1 insert in one case)

# INSERTS

H Type  
(Cast Iron)



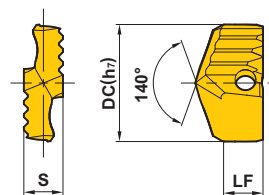
Order Number	Stock	Dimensions (mm)			Applicable Holder
	DP5010	DC	LF	S	
TAWKH1400TG	▲	14.0	7.1	5.0	TAWSNH 1400S16
TAWKH1410TG	▲	14.1	7.1	5.0	TAWMNH 1400S16
TAWKH1420TG	▲	14.2	7.1	5.0	TAWLNH 1400S16
TAWKH1430TG	▲	14.3	7.1	5.0	
TAWKH1440TG	▲	14.4	7.1	5.0	
TAWKH1450TG	▲	14.5	7.0	5.0	
TAWKH1460TG	▲	14.6	7.0	5.0	
TAWKH1470TG	▲	14.7	7.0	5.0	TAWSNH 1500S20
TAWKH1480TG	▲	14.8	7.0	5.0	
TAWKH1490TG	▲	14.9	7.0	5.0	TAWMNH 1500S20
TAWKH1500TG	▲	15.0	6.9	5.0	
TAWKH1510TG	▲	15.1	6.9	5.0	TAWLNH 1500S20
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	TAWSN 1600S20
TAWKH1580TG	▲	15.8	7.3	6.0	
TAWKH1590TG	▲	15.9	7.3	6.0	TAWMN 1600S20
TAWKH1600TG	▲	16.0	7.2	6.0	
TAWKH1610TG	▲	16.1	7.2	6.0	TAWLN 1600S20
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	TAWSN 1700S20
TAWKH1680TG	▲	16.8	7.1	6.0	
TAWKH1690TG	▲	16.9	7.1	6.0	TAWMN 1700S20
TAWKH1700TG	▲	17.0	7.0	6.0	
TAWKH1710TG	▲	17.1	7.0	6.0	TAWLN 1700S20
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	TAWSN 1800S20
TAWKH1780TG	▲	17.8	6.8	6.0	
TAWKH1790TG	▲	17.9	6.8	6.0	TAWMN 1800S20
TAWKH1800TG	▲	18.0	6.8	6.0	
TAWKH1810TG	▲	18.1	6.8	6.0	TAWLN 1800S20
TAWKH1820TG	▲	18.2	6.8	6.0	
TAWKH1830TG	▲	18.3	6.8	6.0	
TAWKH1840TG	▲	18.4	6.8	6.0	

Order Number	Stock	Dimensions (mm)			Applicable Holder
	DP5010	DC	LF	S	
TAWKH1850TG	●	18.5	8.6	7.0	
TAWKH1860TG	●	18.6	8.6	7.0	
TAWKH1870TG	●	18.7	8.6	7.0	TAWSN 1900S25
TAWKH1880TG	●	18.8	8.6	7.0	
TAWKH1890TG	●	18.9	8.6	7.0	TAWMN 1900S25
TAWKH1900TG	●	19.0	8.5	7.0	
TAWKH1910TG	●	19.1	8.5	7.0	TAWLN 1900S25
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	
TAWKH1960TG	●	19.6	8.4	7.0	
TAWKH1970TG	●	19.7	8.4	7.0	TAWSN 2000S25
TAWKH1980TG	●	19.8	8.4	7.0	
TAWKH1990TG	●	19.9	8.4	7.0	TAWMN 2000S25
TAWKH2000TG	●	20.0	8.3	7.0	
TAWKH2010TG	□	20.1	8.3	7.0	TAWLN 2000S25
TAWKH2020TG	□	20.2	8.3	7.0	
TAWKH2030TG	□	20.3	8.3	7.0	
TAWKH2040TG	□	20.4	8.3	7.0	
TAWKH2050TG	●	20.5	8.2	7.0	
TAWKH2060TG	□	20.6	8.2	7.0	
TAWKH2070TG	□	20.7	8.2	7.0	TAWSN 2100S25
TAWKH2080TG	□	20.8	8.2	7.0	
TAWKH2090TG	□	20.9	8.2	7.0	TAWMN 2100S25
TAWKH2100TG	●	21.0	8.1	7.0	
TAWKH2110TG	□	21.1	8.1	7.0	TAWLN 2100S25
TAWKH2120TG	□	21.2	8.1	7.0	
TAWKH2130TG	□	21.3	8.1	7.0	
TAWKH2140TG	□	21.4	8.1	7.0	
TAWKH2150TG	●	21.5	9.8	8.0	
TAWKH2160TG	□	21.6	9.8	8.0	
TAWKH2170TG	□	21.7	9.8	8.0	TAWSN 2200S25
TAWKH2180TG	□	21.8	9.8	8.0	
TAWKH2190TG	□	21.9	9.8	8.0	TAWMN 2200S25
TAWKH2200TG	●	22.0	9.7	8.0	
TAWKH2210TG	□	22.1	9.7	8.0	TAWLN 2200S25
TAWKH2220TG	□	22.2	9.7	8.0	
TAWKH2230TG	□	22.3	9.7	8.0	
TAWKH2240TG	□	22.4	9.7	8.0	
TAWKH2250TG	●	22.5	9.6	8.0	TAWSN 2300S25
TAWKH2260TG	□	22.6	9.6	8.0	TAWMN 2300S25
TAWKH2270TG	□	22.7	9.6	8.0	
TAWKH2280TG	□	22.8	9.6	8.0	TAWLN 2300S25
TAWKH2290TG	□	22.9	9.6	8.0	

● : Inventory maintained in Japan. □ : Non stock, produced to order only.  
▲ : Inventory maintained in Japan. To be replaced by new products.  
(1 insert in one case)

## INSERTS

H Type  
 (Cast Iron)



Order Number	Stock	Dimensions (mm)			Applicable Holder
	DP5010	DC	LF	S	
TAWKH2300TG	●	23.0	9.5	8.0	TAWSN 2300S25
TAWKH2310TG	□	23.1	9.5	8.0	TAWMN 2300S25
TAWKH2320TG	□	23.2	9.5	8.0	TAWLN 2300S25
TAWKH2330TG	□	23.3	9.5	8.0	
TAWKH2340TG	□	23.4	9.5	8.0	
TAWKH2350TG	●	23.5	9.4	8.0	
TAWKH2360TG	□	23.6	9.4	8.0	
TAWKH2370TG	□	23.7	9.4	8.0	TAWSN 2400S32
TAWKH2380TG	□	23.8	9.4	8.0	TAWMN 2400S32
TAWKH2390TG	□	23.9	9.4	8.0	TAWLN 2400S32
TAWKH2400TG	●	24.0	9.3	8.0	
TAWKH2410TG	□	24.1	9.3	8.0	
TAWKH2420TG	□	24.2	9.3	8.0	
TAWKH2430TG	□	24.3	9.3	8.0	
TAWKH2440TG	□	24.4	9.3	8.0	
TAWKH2450TG	●	24.5	10.8	9.0	
TAWKH2460TG	□	24.6	10.8	9.0	
TAWKH2470TG	□	24.7	10.8	9.0	TAWSN 2500S32
TAWKH2480TG	□	24.8	10.8	9.0	TAWMN 2500S32
TAWKH2490TG	□	24.9	10.8	9.0	TAWLN 2500S32
TAWKH2500TG	●	25.0	10.7	9.0	
TAWKH2510TG	□	25.1	10.7	9.0	
TAWKH2520TG	□	25.2	10.7	9.0	
TAWKH2530TG	□	25.3	10.7	9.0	
TAWKH2540TG	□	25.4	10.7	9.0	
TAWKH2550TG	●	25.5	10.6	9.0	
TAWKH2560TG	□	25.6	10.6	9.0	
TAWKH2570TG	□	25.7	10.6	9.0	TAWSN 2600S32
TAWKH2580TG	□	25.8	10.6	9.0	TAWMN 2600S32
TAWKH2590TG	□	25.9	10.6	9.0	TAWLN 2600S32
TAWKH2600TG	●	26.0	10.5	9.0	
TAWKH2610TG	□	26.1	10.5	9.0	
TAWKH2620TG	□	26.2	10.5	9.0	
TAWKH2630TG	□	26.3	10.5	9.0	
TAWKH2640TG	□	26.4	10.5	9.0	
TAWKH2650TG	●	26.5	10.4	9.0	
TAWKH2660TG	□	26.6	10.4	9.0	
TAWKH2670TG	□	26.7	10.4	9.0	TAWSN 2700S32
TAWKH2680TG	□	26.8	10.4	9.0	TAWMN 2700S32
TAWKH2690TG	□	26.9	10.4	9.0	TAWLN 2700S32
TAWKH2700TG	●	27.0	10.3	9.0	
TAWKH2710TG	□	27.1	10.3	9.0	
TAWKH2720TG	□	27.2	10.3	9.0	
TAWKH2730TG	□	27.3	10.3	9.0	
TAWKH2740TG	□	27.4	10.3	9.0	

Order Number	Stock	Dimensions (mm)			Applicable Holder
	DP5010	DC	LF	S	
TAWKH2750TG	●	27.5	11.3	10.0	
TAWKH2760TG	□	27.6	11.3	10.0	
TAWKH2770TG	□	27.7	11.3	10.0	TAWSN 2800S32
TAWKH2780TG	□	27.8	11.3	10.0	TAWMN 2800S32
TAWKH2790TG	□	27.9	11.3	10.0	TAWLN 2800S32
TAWKH2800TG	●	28.0	11.2	10.0	
TAWKH2810TG	□	28.1	11.2	10.0	
TAWKH2820TG	□	28.2	11.2	10.0	
TAWKH2830TG	□	28.3	11.2	10.0	
TAWKH2840TG	□	28.4	11.2	10.0	
TAWKH2850TG	●	28.5	11.1	10.0	
TAWKH2860TG	□	28.6	11.1	10.0	
TAWKH2870TG	□	28.7	11.1	10.0	TAWSN 2900S32
TAWKH2880TG	□	28.8	11.1	10.0	TAWMN 2900S32
TAWKH2890TG	□	28.9	11.1	10.0	TAWLN 2900S32
TAWKH2900TG	●	29.0	11.0	10.0	
TAWKH2910TG	□	29.1	11.0	10.0	
TAWKH2920TG	□	29.2	11.0	10.0	
TAWKH2930TG	□	29.3	11.0	10.0	
TAWKH2940TG	□	29.4	11.0	10.0	
TAWKH2950TG	●	29.5	10.9	10.0	
TAWKH2960TG	□	29.6	10.9	10.0	
TAWKH2970TG	□	29.7	10.9	10.0	TAWSN 3000S32
TAWKH2980TG	□	29.8	10.9	10.0	TAWMN 3000S32
TAWKH2990TG	□	29.9	10.9	10.0	TAWLN 3000S32
TAWKH3000TG	●	30.0	10.8	10.0	
TAWKH3010TG	□	30.1	10.8	10.0	
TAWKH3020TG	□	30.2	10.8	10.0	
TAWKH3030TG	□	30.3	10.8	10.0	
TAWKH3040TG	□	30.4	10.8	10.0	

## INSERT FOR CHAMFER RING

Shape	Order Number	Stock	Geometry
		VP15TF	
	TAWC12T301-45GM	●	

● : Inventory maintained in Japan. □ : Non stock, produced to order only.

▲ : Inventory maintained in Japan. To be replaced by new products. (Holder of  $\phi 14.0$ - $\phi 18.4$  were discontinued in March 2015.)  
 (1 insert in one case)

## RECOMMENDED CUTTING CONDITIONS

Work Material	Drill Diameter	Conditions Hardness	φ18.5—φ21.4		φ21.5—φ24.4	
			Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤180HB		90 (70—110)	0.25 (0.20—0.30)	100 (80—120)	0.30 (0.25—0.35)
			80 (60—100)	0.25 (0.20—0.30)	90 (70—110)	0.30 (0.25—0.35)
Carbon Steel Alloy Steel	HB180—280		70 (50—90)	0.20 (0.15—0.25)	80 (60—100)	0.25 (0.20—0.30)
	HB280—350		60 (50—70)	0.20 (0.15—0.22)	60 (50—70)	0.20 (0.15—0.22)
M Stainless Steel	≤200HB		120 (60—140)	0.25 (0.20—0.30)	130 (80—150)	0.35 (0.25—0.40)
K Gray Cast Iron	Tensile Strength ≤350MPa		80 (60—90)	0.25 (0.20—0.30)	90 (60—100)	0.30 (0.25—0.35)
	Tensile Strength ≤450MPa					

Work Material	Drill Diameter	Conditions Hardness	φ24.5—φ27.4		φ27.5—φ30.4	
			Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤180HB		110 (80—120)	0.30 (0.25—0.35)	110 (80—120)	0.30 (0.25—0.35)
			100 (80—120)	0.30 (0.25—0.35)	100 (80—120)	0.30 (0.25—0.35)
Carbon Steel Alloy Steel	HB180—280		90 (70—110)	0.25 (0.20—0.30)	90 (70—110)	0.25 (0.20—0.30)
	HB280—350		70 (60—80)	0.25 (0.20—0.28)	70 (60—80)	0.25 (0.20—0.28)
M Stainless Steel	≤200HB		140 (90—160)	0.35 (0.25—0.40)	140 (90—160)	0.40 (0.30—0.45)
K Gray Cast Iron	Tensile Strength ≤350MPa		100 (80—110)	0.30 (0.25—0.35)	100 (80—110)	0.30 (0.25—0.35)
	Tensile Strength ≤450MPa					

(Note 1) When using the 8D type holder, reduce the cutting speed by approx. 20%.

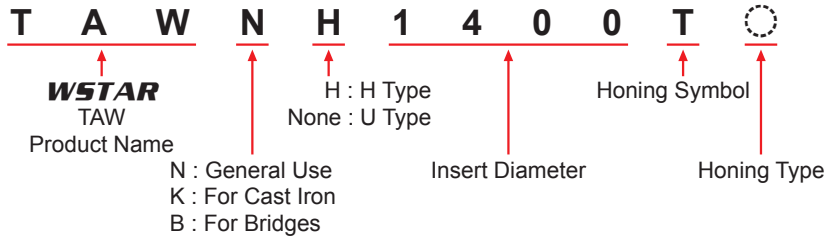
(Note 2) When using the 8D type holder, it is recommended to drill a pilot guide hole.

(Note 3) H type honing is recommended when machining mild steel and stainless steel.

### 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 (mm)
F	0
G	0.02—0.05
H	0.05—0.10
-(Standard)	0.10—0.15
K	0.15—0.20
S	0.20—0.25
M	0.25—0.30

## NOTES ON USE

### INSERT INSTALLATION

- Loosen the clamp screw to install the insert.
- Correctly mesh the insert and the holder serrations, then slide the insert to the bottom of the slot.
- Fasten the clamp screw using the torque wrench provided while holding the insert lightly as shown. (Figure 1)
- Check there is no gap between the bottom of the insert and holder. (Figure 2)

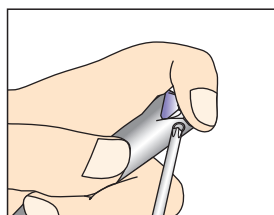


Fig. 1

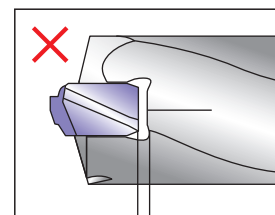
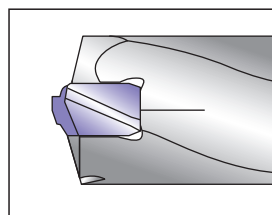


Fig. 2

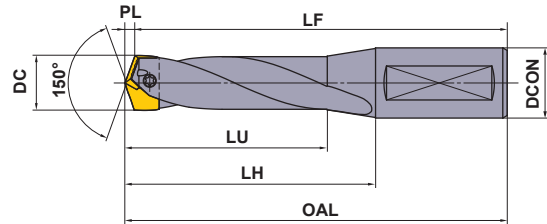
### INSERT REPLACEMENT

- Thoroughly clean the serrations of the holder before installing a new insert.  
Remove heavy dirt in the holder serrations by using the cleaning plate provided.



P M K N S H

(For Bridge Construction)



## HOLDERS

DC (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)						Clamp Screw	Wrench	Plate	Anti-seize Lubricant
		Order Number	Stock	DC (mm)	Order Number	Stock VP15TF	LU	LH	OAL	LF	PL	DCON				
24.5	3	TAWSB2500S32	●	24.5	TAWBH2450T	●	91.9	113.9	173.9	170.6	3.3	32	WS406023T	TKY25T	WPT4405	MK1KS
24.6	5	TAWMB2500S32	□	24.6	TAWBH2460T	□	143.9	168.9	228.9	225.6	3.3	32	WS406023T	TKY25T	WPT4405	MK1KS
24.7				24.7	TAWBH2470T	●										
26.5	3	TAWSB2700S32	●	26.5	TAWBH2650T	□	98.2	119.2	179.2	175.6	3.6	32	WS406024T	TKY25T	WPT4405	MK1KS
26.7	5	TAWMB2700S32	□	26.7	TAWBH2670T	●	155.2	179.2	239.2	235.6	3.6	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWBH2670T	●										

(Note 1) The above dimensions are for when installing the TAWBH (H type) insert.

(Note 2) Please contact us for any geometry that is not in this catalogue (e.g. different diameter and length).

● : Inventory maintained in Japan. □ : Non stock, produced to order only.

## INSERTS

Shape	Order Number	Stock VP15TF	Dimensions (mm)			Applicable Holder	Hone Width (mm)	Geometry
			DC	LF	S			
	TAWBH2450T	●	24.5	11.7	9.0	TAWSB2500S32 TAWMB2500S32	0.20—0.25	
	TAWBH2460T	□	24.6	11.7	9.0			
	TAWBH2470T	●	24.7	11.7	9.0			
	TAWBH2650T	□	26.5	11.3	9.0	TAWSB2700S32		
	TAWBH2670T	●	26.7	11.3	9.0	TAWMB2700S32		

● : Inventory maintained in Japan. □ : Non stock, produced to order only.

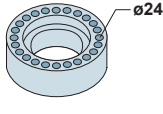
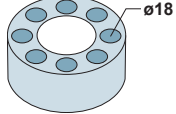
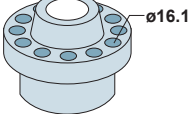
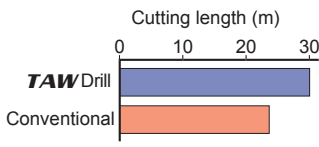
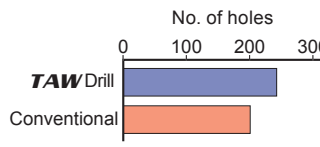
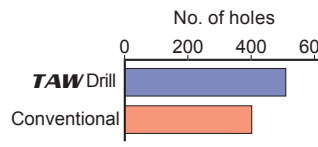
(1 insert in one case)

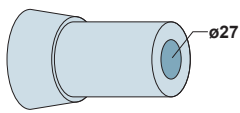
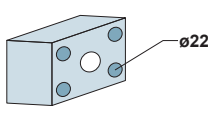
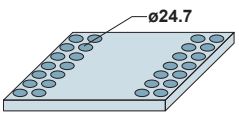
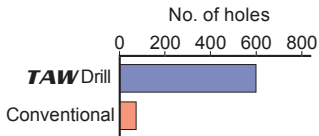
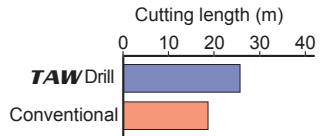
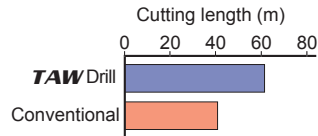
## RECOMMENDED CUTTING CONDITIONS

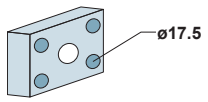
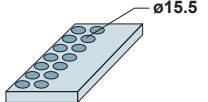
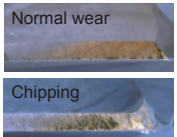
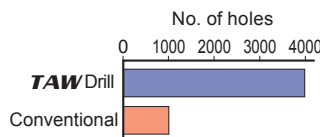
Work Material	Drill Diameter	Conditions	φ24.5, φ24.6, φ24.7		φ26.5, φ26.7	
			Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
Structural Steel	SS400 (JIS)	Tensile Strength ≤400—500MPa	70 (60—80)	0.30 (0.25—0.35)	70 (60—80)	0.30 (0.25—0.35)
	SM490 (JIS)	Tensile Strength ≤490—610MPa	65 (55—75)	0.30 (0.25—0.35)	65 (55—75)	0.30 (0.25—0.35)
	SM570 (JIS)	Tensile Strength ≤570—720MPa	60 (50—70)	0.30 (0.25—0.35)	60 (50—70)	0.30 (0.25—0.35)



## APPLICATION EXAMPLES

Holder	TAWSN2400S32	TAWMN1800S20	TAWSN1600S20
Insert (Grade)	TAWNH2400T (VP15TF)	TAWN1800T (VP15TF)	TAWN1610T (VP15TF)
Workpiece	JIS S50C 	JIS S48C(200HB) 	JIS SF390A 
Component	Ring	Ring gear	Machine parts
Cutting Conditions	Cutting Speed (m/min)	90	80
	Feed (mm/rev)	0.3	0.3
	Revolution (mm <sup>-1</sup> )	1194	1582
	Feed Rate (mm/min)	358	475
Coolant	W.S.O	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)
Machine Type	Machining centre	Machining centre	Machining centre
Result			

Holder	TAWSN2700S32	TAWLN2200S25	TAWSB2500S32
Insert (Grade)	TAWN2700T (VP15TF)	TAWN2200T (VP15TF)	TAWB2470T (VP15TF)
Workpiece	JIS SCM 	JIS FCD400 	JIS SM490 
Component	Tube	Steel for bridges	Steel for bridges
Cutting Conditions	Cutting Speed (m/min)	80	60
	Feed (mm/rev)	0.3	0.3
	Revolution (mm <sup>-1</sup> )	943	773
	Feed Rate (mm/min)	283	232
Coolant	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)	W.S.O
Machine Type	NC lathe	Machining centre	Gundrill machine
Result			

Holder	TAWSN1800S20	TAWSN1600S20
Insert (Grade)	TAWKH1750TG (DP5010)	TAWKH1550TG (DP5010)
Workpiece	JIS FC250 	JIS FC250 
Component	Machine parts	Machine parts
Cutting Conditions	Cutting Speed (m/min)	120
	Feed (mm/rev)	0.25
	Revolution (mm <sup>-1</sup> )	2183
	Feed Rate (mm/min)	546
Coolant	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)
Machine Type	Machining centre	Machining centre
Result		



Head Exchangeable Type Carbide Drill  
**WSTAR** Insert Type Drill

**TAW**

**For Your Safety**

●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When attaching inserts or spare parts, please use only the correct wrench or spanner. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

**MITSUBISHI MATERIALS CORPORATION**

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