

Indexable Type Drill

# TAW Drill

New 8D  
holder for the  
H type insert!

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



H Type Insert



U Type Insert

High rigidity grade for longer tool life

**MIRACLE® Coated VP15TF**

MIRACLE coating is ideal for drilling due to its high welding resistance. Suitable for machining a wide range of workpiece materials from Mild and Alloy steels through to Stainless steels and Cast iron.



# Indexable Type Drill

# TAW Drill

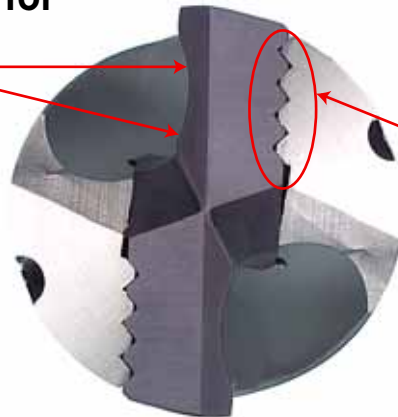
## Features

### Designed for Extreme Sharpness and Accuracy

#### Wave Type Cutting Edge for Superior Chip Control

##### Wavy Cutting Edge

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



Cutting edge shape

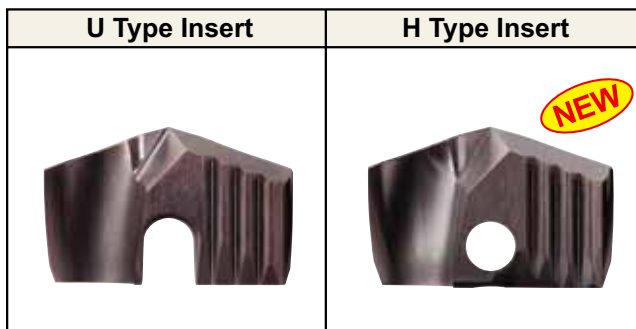
#### Serrated Insert Clamping Geometry

##### Mitsubishi's Unique Serration Geometry

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

## Insert Selection

- New through hole clamping type for added reliability.



## Exceptional Tool Life

- **MIRACLE**® coated **VP15TF** delivering exceptional tool life.



**MIRACLE**®  
coating  
(Al, Ti)N

Micro-grain  
cemented  
carbide  
TF15

**VP15TF**

### Features of **VP15TF**

**MIRACLE**® coated **VP15TF** is ideal for drilling due to its high resistance to chip welding. Suitable for machining a wide range of workpiece materials from mild and alloy steels through to stainless steels and cast iron.

## Easy Change (U Type Insert)

- Inserts can be replaced easily by loosening a single clamp screw.



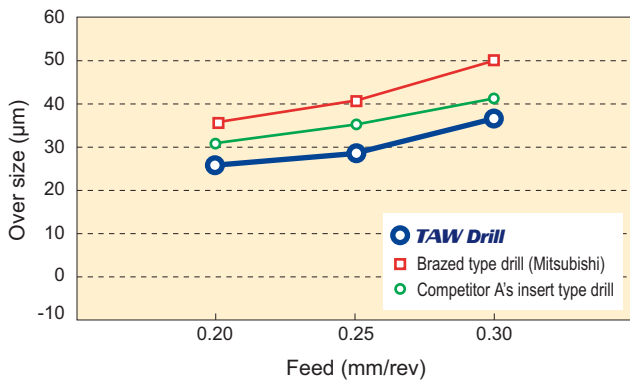
## High Durability Body

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



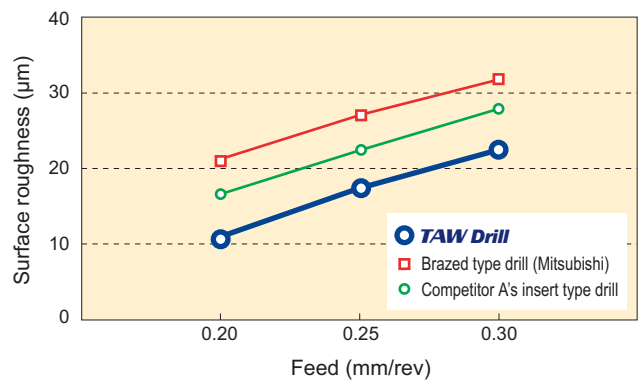
# Cutting Performance

## Over Size



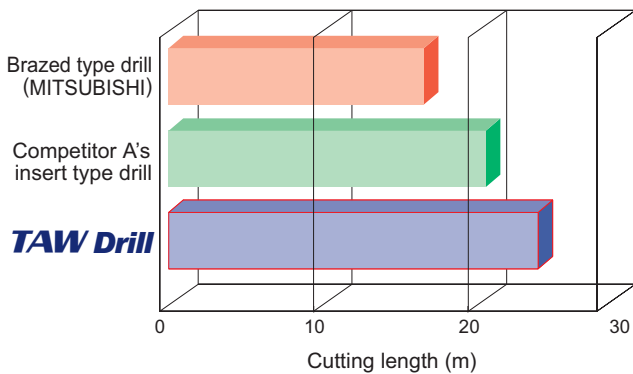
<Cutting conditions>  
 Workpiece : JIS S50C (150–180HB)  
 Drill diameter : ø20 (L/D=5)  
 Cutting speed : 80m/min  
 Coolant : Emulsion 10%  
 Pressure : 0.5MPa (Internal Coolant)

## Surface Roughness



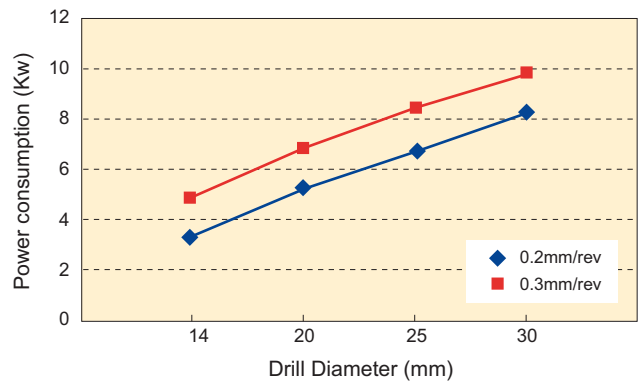
<Cutting conditions>  
 Workpiece : JIS S50C (150–180HB)  
 Drill diameter : ø20 (L/D=5)  
 Cutting speed : 80m/min  
 Coolant : Emulsion 10%  
 Pressure : 0.5MPa (Internal Coolant)

## Insert Life



<Cutting conditions>  
 Workpiece : JIS S50C (150–180HB)  
 Drill diameter : ø20 (L/D=5)  
 Cutting speed : 100m/min  
 Feed : 0.25mm/rev  
 Coolant : Emulsion 10%  
 Pressure : 0.5MPa (Internal Coolant)

## Power Consumption



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

## Power consumption and torque/thrust equations (Guide)

$$P_{net} = \alpha_1 \times \frac{2\pi \times n \times M_d}{102 \times 60 \times 100} + \beta_1 \times \frac{fr \times n \times T}{102 \times 60 \times 1000} \text{ (kW)}$$

$$M_d \text{ (Torque)} = \alpha_2 \times HB \times fr^{\beta_2} \times D^{\gamma_2} \text{ (kg} \cdot \text{cm)}$$

$$T \text{ (Thrust)} = \alpha_3 \times HB \times fr^{\beta_3} \times D^{\gamma_3} \text{ (kg} \cdot \text{f)}$$

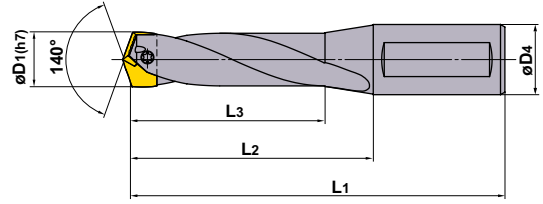
(M<sub>d</sub> and T equations were calculated based on the experimental data.)

P <sub>net</sub> (kW) : Required cutting power	α <sub>1</sub> (Coefficient) : 1.5
π (3.14) : Pi	α <sub>2</sub> (Coefficient) : 0.025
n (min <sup>-1</sup> ) : Spindle revolution	α <sub>3</sub> (Coefficient) : 0.8
M <sub>d</sub> (kg · cm) : Torque	β <sub>1</sub> (Coefficient) : 1.0
fr (mm/rev) : Feed per revolution	β <sub>2</sub> (Coefficient) : 0.8
T (kgf) : Thrust	β <sub>3</sub> (Coefficient) : 0.7
D (mm) : Drill diameter	γ <sub>2</sub> (Coefficient) : 1.8
HB (HB) : Workpiece hardness	γ <sub>3</sub> (Coefficient) : 0.65

(The above values are calculated based on experimental data.)

# TAW Drill





(General Use)



**Holder**

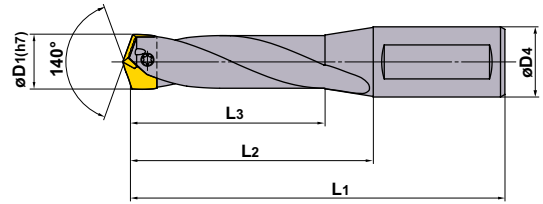
Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert				Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1	D4				
						VP15TF	VP10H								
14.0   14.4	3	TAWSNH1400S16	●	14.0	TAWNH1400T	●	□	51	67	115	16	WS254012T	TKY08D	WPT4405	MK1KS
				14.1	TAWNH1410T	●	□								
	NEW 8	TAWMNH1400S16	●	14.2	TAWNH1420T	●	□	80	97	145	16				
		TAWLNH1400S16	●	14.3	TAWNH1430T	●	□	122	137	185	16				
14.5   15.4	3	TAWSNH1500S20	●	14.5	TAWNH1450T	●	□	54	75	125	20	WS254013T	TKY08D	WPT4405	MK1KS
				14.6	TAWNH1460T	●	□								
				14.7	TAWNH1470T	●	□								
				14.8	TAWNH1480T	●	□								
	5	TAWMNH1500S20	●	14.9	TAWNH1490T	●	□	85	105	155	20				
				15.0	TAWNH1500T	●	□								
				15.1	TAWNH1510T	●	□								
	NEW 8	TAWLNH1500S20	●	15.2	TAWNH1520T	●	□	130	148	198	20				
				15.3	TAWNH1530T	●	□								
	15.5   16.4	3	TAWSN1600S20	●	15.5	TAWN1550T	●	□	58 (58)	80 (80)	130 (130)				
					TAWNH1550T	●	□								
					TAWN1560T	●	□								
					TAWNH1560T	●	□								
					TAWN1570T	●	□								
					TAWNH1570T	●	□								
5		TAWMN1600S20	●	15.8	TAWN1580T	●	□	91 (91)	115 (115)	165 (165)	20				
					TAWNH1580T	●	□								
					TAWN1590T	●	□								
					TAWNH1590T	●	□								
					TAWN1600T	●	□								
					TAWNH1600T	●	□								
NEW 8		TAWLN1600S20	●	16.1	TAWN1610T	●	□	138 (138)	158 (158)	208 (208)	20				
				16.2	TAWN1620T	●	□								
				16.3	TAWN1630T	●	□								
					TAWNH1610T	●	□								
					TAWN1620T	●	□								
					TAWNH1620T	●	□								
				16.4	TAWN1640T	●	□								
					TAWNH1640T	●	□								

- Notes 1. The dimensions in brackets represent the sizes when TAWN-U type inserts are used.  
 2. The TAWN-U type inserts cannot be used for the TAWS/M/L NH1400S16 and TAWS/M/L NH1500S20 holders.  
 3. Please contact us for any type that is not shown in this literature (e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert				Dimensions (mm)							
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1	D4				
						VP15TF	VP10H								
16.5   17.4	3	TAWSN1700S20	●	16.5	TAWN1650T	●	□	61 (61)	85 (85)	135 (135)	20	WS254015T	ⓉTKY08D	WPT4405	MK1KS
				TAWNH1650T	●	□									
				16.6	TAWN1660T	●	□								
				TAWNH1660T	●	□									
	5	TAWMN1700S20	●	16.7	TAWN1670T	●	□	96 (96)	120 (120)	170 (170)	20	WS254015T	ⓉTKY08D	WPT4405	MK1KS
				TAWNH1670T	●	□									
				16.8	TAWN1680T	●	□								
				TAWNH1680T	●	□									
	NEW 8	TAWLN1700S20	●	16.9	TAWN1690T	●	□	146 (146)	166 (166)	216 (216)	20	WS254015T	ⓉTKY08D	WPT4405	MK1KS
				TAWNH1690T	●	□									
				17.0	TAWN1700T	●	□								
				TAWNH1700T	●	□									
17.5   18.4	3	TAWSN1800S20	●	17.1	TAWN1710T	●	□	102 (102)	125 (125)	175 (175)	20	WS254016T	ⓉTKY08D	WPT4405	MK1KS
				TAWNH1710T	●	□									
				17.2	TAWN1720T	●	□								
				TAWNH1720T	●	□									
	5	TAWMN1800S20	●	17.3	TAWN1730T	●	□	154 (154)	174 (174)	224 (224)	20	WS254016T	ⓉTKY08D	WPT4405	MK1KS
				TAWNH1730T	●	□									
				17.4	TAWN1740T	●	□								
				TAWNH1740T	●	□									
	NEW 8	TAWLN1800S20	●	17.5	TAWN1750T	●	□	65 (65)	90 (90)	140 (140)	20	WS254016T	ⓉTKY08D	WPT4405	MK1KS
				TAWNH1750T	●	□									
				17.6	TAWN1760T	●	□								
				TAWNH1760T	●	□									
18.5   19.4	3	TAWSN1900S25	●	17.7	TAWN1770T	●	□	107 (107)	134 (134)	190 (190)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS
				TAWNH1770T	●	□									
				17.8	TAWN1780T	●	□								
				TAWNH1780T	●	□									
	5	TAWMN1900S25	●	17.9	TAWN1790T	●	□	162 (162)	185 (185)	241 (241)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS
				TAWNH1790T	●	□									
				18.0	TAWN1800T	●	□								
				TAWNH1800T	●	□									
	NEW 8	TAWLN1900S25	●	18.1	TAWN1810T	●	□	68 (68)	99 (99)	155 (155)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS
				TAWNH1810T	●	□									
				18.2	TAWN1820T	●	□								
				TAWNH1820T	●	□									
5	TAWMN1900S25	●	18.3	TAWN1830T	●	□	107 (107)	134 (134)	190 (190)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS	
			TAWNH1830T	●	□										
			18.4	TAWN1840T	●	□									
			TAWNH1840T	●	□										
NEW 8	TAWLN1900S25	●	18.5	TAWN1850T	●	□	162 (162)	185 (185)	241 (241)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS	
			TAWNH1850T	●	□										
			18.6	TAWN1860T	●	□									
			TAWNH1860T	●	□										
5	TAWMN1900S25	●	18.7	TAWN1870T	●	□	107 (107)	134 (134)	190 (190)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS	
			TAWNH1870T	●	□										
			18.8	TAWN1880T	●	□									
			TAWNH1880T	●	□										
NEW 8	TAWLN1900S25	●	18.9	TAWN1890T	●	□	107 (107)	134 (134)	190 (190)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS	
			TAWNH1890T	●	□										
			19.0	TAWN1900T	●	□									
			TAWNH1900T	●	□										
5	TAWMN1900S25	●	19.1	TAWN1910T	●	□	107 (107)	134 (134)	190 (190)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS	
			TAWNH1910T	●	□										
			19.2	TAWN1920T	●	□									
			TAWNH1920T	●	□										
NEW 8	TAWLN1900S25	●	19.3	TAWN1930T	●	□	107 (107)	134 (134)	190 (190)	25	WS304517T	ⓉTKY10T	WPT4405	MK1KS	
			TAWNH1930T	●	□										
			19.4	TAWN1940T	●	□									
			TAWNH1940T	●	□										

# TAW Drill

(General Use)







**Holder**

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert		Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant		
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock	L3	L2	L1					D4	
						VP15TF	VP10H								
19.5   20.4	3	TAWSN2000S25	●	19.5	TAWN1950T	●	□	72 (72)	99 (99)	155 (155)	25	WS304518T	TKY10T	WPT4405	MK1KS
					TAWNH1950T	●	□								
					TAWN1960T	●	□								
					TAWNH1960T	●	□								
	5	TAWMN2000S25	●	19.6	TAWN1970T	●	□	113 (113)	139 (139)	195 (195)	25	WS304518T	TKY10T	WPT4405	MK1KS
					TAWNH1970T	●	□								
					TAWN1980T	●	□								
					TAWNH1980T	●	□								
					TAWN1990T	●	□								
					TAWNH1990T	●	□								
					TAWN2000T	●	□								
					TAWNH2000T	●	□								
8	TAWLN2000S25	●	20.1	TAWN2010T	□	□	170 (170)	193 (193)	249 (249)	25	WS304518T	TKY10T	WPT4405	MK1KS	
				TAWNH2010T	□	□									
				TAWN2020T	□	□									
				TAWNH2020T	□	□									
20.5   21.4	3	TAWSN2100S25	●	20.5	TAWN2030T	□	□	75 (75)	99 (99)	155 (155)	25	WS304518T	TKY10T	WPT4405	MK1KS
					TAWNH2030T	□	□								
					TAWN2040T	□	□								
					TAWNH2040T	□	□								
	5	TAWMN2100S25	●	20.6	TAWN2050T	●	□	118 (118)	139 (139)	195 (195)	25	WS304518T	TKY10T	WPT4405	MK1KS
					TAWNH2050T	●	□								
					TAWN2060T	□	□								
					TAWNH2060T	□	□								
					TAWN2070T	□	□								
					TAWNH2070T	□	□								
					TAWN2080T	□	□								
					TAWNH2080T	□	□								
8	TAWLN2100S25	●	20.9	TAWN2090T	□	□	178 (178)	202 (202)	258 (258)	25	WS304518T	TKY10T	WPT4405	MK1KS	
				TAWNH2090T	□	□									
				TAWN2100T	●	□									
				TAWNH2100T	●	□									
21.5   22.4	3	TAWSN2200S25	●	21.1	TAWN2110T	□	□	79.3 (79)	104.3 (104)	160.3 (160)	25	WS355520T	TKY15T	WPT4405	MK1KS
					TAWNH2110T	□	□								
					TAWN2120T	□	□								
					TAWNH2120T	□	□								
	5	TAWMN2200S25	●	21.2	TAWN2130T	□	□	124.3 (124)	144.3 (144)	200.3 (200)	25	WS355520T	TKY15T	WPT4405	MK1KS
					TAWNH2130T	□	□								
					TAWN2140T	□	□								
					TAWNH2140T	□	□								
					TAWN2150T	●	□								
					TAWNH2150T	●	□								
					TAWN2160T	□	□								
					TAWNH2160T	□	□								
8	TAWLN2200S25	●	21.7	TAWN2170T	□	□	186 (185.7)	210 (209.7)	266 (265.7)	25	WS355520T	TKY15T	WPT4405	MK1KS	
				TAWNH2170T	□	□									
				TAWN2180T	□	□									
				TAWNH2180T	□	□									
8	TAWLN2200S25	●	21.8	TAWN2190T	□	□	186 (185.7)	210 (209.7)	266 (265.7)	25	WS355520T	TKY15T	WPT4405	MK1KS	
				TAWNH2190T	□	□									

Notes 1. The dimensions in brackets represent the sizes when TAWN-U type inserts are used.

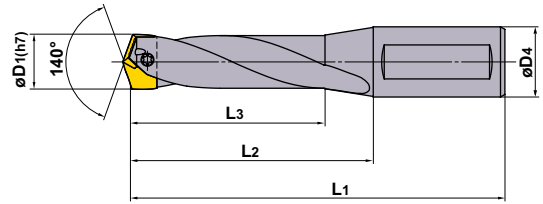
2. Please contact us for any type that is not shown in this literature (e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

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

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert				Dimensions (mm)							
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1	D4				
						VP15TF	VP10H								
21.5   22.4	3	TAWSN2200S25	●	22.0	TAWN2200T	●	<input type="checkbox"/>	79.3 (79)	104.3 (104)	160.3 (160)	25	WS355520T	TKY15T	WPT4405	MK1KS
					TAWNH2200T	●	<input type="checkbox"/>								
				22.1	TAWN2210T	<input type="checkbox"/>	<input type="checkbox"/>								
	5	TAWMN2200S25	●	22.2	TAWN2220T	<input type="checkbox"/>	<input type="checkbox"/>	124.3 (124)	144.3 (144)	200.3 (200)	25	WS355520T	TKY15T	WPT4405	MK1KS
					TAWNH2220T	<input type="checkbox"/>	<input type="checkbox"/>								
				22.3	TAWN2230T	<input type="checkbox"/>	<input type="checkbox"/>								
8	TAWLN2200S25	●	22.4	TAWN2240T	<input type="checkbox"/>	<input type="checkbox"/>	186 (185.7)	210 (209.7)	266 (265.7)	25	WS355520T	TKY15T	WPT4405	MK1KS	
				TAWNH2240T	<input type="checkbox"/>	<input type="checkbox"/>									
22.5   23.4	3	TAWSN2300S25	●	22.5	TAWN2250T	●	<input type="checkbox"/>	82.3 (82)	104.3 (104)	160.3 (160)	25	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2250T	●	<input type="checkbox"/>								
				22.6	TAWN2260T	<input type="checkbox"/>	<input type="checkbox"/>								
				22.7	TAWN2270T	<input type="checkbox"/>	<input type="checkbox"/>								
	5	TAWMN2300S25	●	22.8	TAWN2280T	<input type="checkbox"/>	<input type="checkbox"/>	129.3 (129)	154.3 (154)	210.3 (210)	25	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2280T	<input type="checkbox"/>	<input type="checkbox"/>								
				22.9	TAWN2290T	<input type="checkbox"/>	<input type="checkbox"/>								
				23.0	TAWN2300T	●	<input type="checkbox"/>								
	8	TAWLN2300S25	●	23.1	TAWN2310T	<input type="checkbox"/>	<input type="checkbox"/>	194 (193.7)	223 (222.7)	279 (278.7)	25	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2310T	<input type="checkbox"/>	<input type="checkbox"/>								
				23.2	TAWN2320T	<input type="checkbox"/>	<input type="checkbox"/>								
				23.3	TAWN2330T	<input type="checkbox"/>	<input type="checkbox"/>								
23.5   24.4	3	TAWSN2400S32	●	23.5	TAWN2350T	●	<input type="checkbox"/>	86.3 (86)	110.3 (110)	170.3 (170)	32	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2350T	●	<input type="checkbox"/>								
				23.6	TAWN2360T	<input type="checkbox"/>	<input type="checkbox"/>								
	5	TAWMN2400S32	●	23.7	TAWN2370T	<input type="checkbox"/>	<input type="checkbox"/>	135.3 (135)	160.3 (160)	220.3 (220)	32	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2370T	<input type="checkbox"/>	<input type="checkbox"/>								
				23.8	TAWN2380T	<input type="checkbox"/>	<input type="checkbox"/>								
				23.9	TAWN2390T	<input type="checkbox"/>	<input type="checkbox"/>								
	8	TAWLN2400S32	●	24.0	TAWN2400T	●	<input type="checkbox"/>	202 (201.7)	232 (231.7)	292 (291.7)	32	WS355521T	TKY15T	WPT4405	MK1KS
					TAWNH2400T	●	<input type="checkbox"/>								
				24.1	TAWN2410T	<input type="checkbox"/>	<input type="checkbox"/>								
24.5   25.4	3	TAWSN2500S32	●	24.2	TAWN2420T	<input type="checkbox"/>	<input type="checkbox"/>	88.6 (88)	110.6 (110)	170.6 (170)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWNH2420T	<input type="checkbox"/>	<input type="checkbox"/>								
	5	TAWMN2500S32	●	24.3	TAWN2430T	<input type="checkbox"/>	<input type="checkbox"/>	140.6 (140)	165.6 (165)	225.6 (225)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWNH2430T	<input type="checkbox"/>	<input type="checkbox"/>								
				24.4	TAWN2440T	<input type="checkbox"/>	<input type="checkbox"/>								
8	TAWLN2500S32	●	24.5	TAWN2450T	●	<input type="checkbox"/>	210 (209.4)	240 (239.4)	300 (299.4)	32	WS406023T	TKY25T	WPT4405	MK1KS	
				TAWNH2450T	●	<input type="checkbox"/>									

# TAW Drill

(General Use)



**Holder**





Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)				 Clamp Screw	 Wrench	 Plate	 Anti-seize Lubricant
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock	L3	L2	L1	D4				
24.5   25.4	3	TAWSN2500S32	●	25.0	TAWN2500T	●	88.6 (88)	110.6 (110)	170.6 (170)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWNH2500T	●								
				25.1	TAWN2510T	□								
	5	TAWMN2500S32	●	25.2	TAWN2520T	□	140.6 (140)	165.6 (165)	225.6 (225)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWNH2520T	□								
				25.3	TAWN2530T	□								
	8	TAWLN2500S32	●	25.4	TAWN2540T	□	210 (209.4)	240 (239.4)	300 (299.4)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWNH2540T	□								
				25.5	TAWN2550T	●								
25.5   26.4	3	TAWSN2600S32	●	25.5	TAWN2550T	●	92.6 (92)	115.6 (115)	175.6 (175)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2550T	●								
				25.6	TAWN2560T	□								
					TAWNH2560T	□								
				25.7	TAWN2570T	□								
	5	TAWMN2600S32	●	25.8	TAWN2580T	□	146.6 (146)	170.6 (170)	230.6 (230)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2580T	□								
				25.9	TAWN2590T	□								
					TAWNH2590T	□								
				26.0	TAWN2600T	●								
	8	TAWLN2600S32	●	26.1	TAWN2610T	□	218 (217.4)	248 (247.4)	308 (307.4)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2610T	□								
				26.2	TAWN2620T	□								
					TAWNH2620T	□								
				26.3	TAWN2630T	□								
26.5   27.4	3	TAWSN2700S32	●	26.5	TAWN2650T	●	94.6 (94)	115.6 (115)	175.6 (175)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2650T	●								
				26.6	TAWN2660T	□								
					TAWNH2660T	□								
	5	TAWMN2700S32	●	26.7	TAWN2670T	□	151.6 (151)	175.6 (175)	235.6 (235)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWNH2670T	□								
				26.8	TAWN2680T	□								
					TAWNH2680T	□								
				26.9	TAWN2690T	□								
					TAWNH2690T	□								
8	TAWLN2700S32	●	27.0	TAWN2700T	●	226 (225.4)	256 (255.4)	316 (315.4)	32	WS406024T	TKY25T	WPT4405	MK1KS	
				TAWNH2700T	●									
			27.1	TAWN2710T	□									
				TAWNH2710T	□									
	27.2	TAWN2720T	□											
	27.3	TAWN2730T	□											
	27.4	TAWN2740T	□											
		TAWNH2740T	□											

Notes 1. The dimensions in brackets represent the sizes when TAWN-U type inserts are used.

2. Please contact us for any type that is not shown in this literature (e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

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

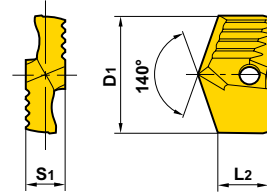


Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)								
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock		L3	L2	L1					D4
						VP15TF	VP10H				Clamp Screw	Wrench	Plate	Anti-seize Lubricant	
27.5   28.4	3	TAWSN2800S32	●	27.5	TAWN2750T	●	<input type="checkbox"/>	97.2 (97)	120.2 (120)	180.2 (180)	32	WS508026T	TKY27T	WPT4405	MK1KS
					TAWNH2750T	●	<input type="checkbox"/>								
				27.6	TAWN2760T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2760T	<input type="checkbox"/>	<input type="checkbox"/>								
				27.7	TAWN2770T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2770T	<input type="checkbox"/>	<input type="checkbox"/>											
		27.8	TAWN2780T	<input type="checkbox"/>	<input type="checkbox"/>	157.2 (157)	180.2 (180)	240.2 (240)	32	WS508026T	TKY27T	WPT4405	MK1KS		
		TAWNH2780T	<input type="checkbox"/>	<input type="checkbox"/>											
	27.9	TAWN2790T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2790T	<input type="checkbox"/>	<input type="checkbox"/>											
	28.0	TAWN2800T	●	<input type="checkbox"/>											
		TAWNH2800T	●	<input type="checkbox"/>											
		28.1	TAWN2810T	<input type="checkbox"/>	<input type="checkbox"/>	234 (233.8)	264 (263.8)	324 (323.8)	32	WS508026T	TKY27T	WPT4405	MK1KS		
		TAWNH2810T	<input type="checkbox"/>	<input type="checkbox"/>											
	28.2	TAWN2820T	<input type="checkbox"/>	<input type="checkbox"/>											
	TAWNH2820T	<input type="checkbox"/>	<input type="checkbox"/>												
28.3	TAWN2830T	<input type="checkbox"/>	<input type="checkbox"/>												
	TAWNH2830T	<input type="checkbox"/>	<input type="checkbox"/>												
	28.4	TAWN2840T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2840T	<input type="checkbox"/>	<input type="checkbox"/>											
28.5   29.4	3	TAWSN2900S32	●	28.5	TAWN2850T	●	<input type="checkbox"/>	100.2 (100)	125.2 (125)	185.2 (185)	32	WS508027T	TKY27T	WPT4405	MK1KS
					TAWNH2850T	●	<input type="checkbox"/>								
				28.6	TAWN2860T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2860T	<input type="checkbox"/>	<input type="checkbox"/>								
				28.7	TAWN2870T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2870T	<input type="checkbox"/>	<input type="checkbox"/>											
		28.8	TAWN2880T	<input type="checkbox"/>	<input type="checkbox"/>	162.2 (162)	185.2 (185)	245.2 (245)	32	WS508027T	TKY27T	WPT4405	MK1KS		
		TAWNH2880T	<input type="checkbox"/>	<input type="checkbox"/>											
	28.9	TAWN2890T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2890T	<input type="checkbox"/>	<input type="checkbox"/>											
	29.0	TAWN2900T	●	<input type="checkbox"/>											
		TAWNH2900T	●	<input type="checkbox"/>											
		29.1	TAWN2910T	<input type="checkbox"/>	<input type="checkbox"/>	242 (241.8)	272 (271.8)	332 (331.8)	32	WS508027T	TKY27T	WPT4405	MK1KS		
		TAWNH2910T	<input type="checkbox"/>	<input type="checkbox"/>											
	29.2	TAWN2920T	<input type="checkbox"/>	<input type="checkbox"/>											
	TAWNH2920T	<input type="checkbox"/>	<input type="checkbox"/>												
29.3	TAWN2930T	<input type="checkbox"/>	<input type="checkbox"/>												
	TAWNH2930T	<input type="checkbox"/>	<input type="checkbox"/>												
	29.4	TAWN2940T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2940T	<input type="checkbox"/>	<input type="checkbox"/>											
29.5   30.4	3	TAWSN3000S32	●	29.5	TAWN2950T	●	<input type="checkbox"/>	104.2 (104)	125.2 (125)	185.2 (185)	32	WS508027T	TKY27T	WPT4405	MK1KS
					TAWNH2950T	●	<input type="checkbox"/>								
				29.6	TAWN2960T	<input type="checkbox"/>	<input type="checkbox"/>								
					TAWNH2960T	<input type="checkbox"/>	<input type="checkbox"/>								
				29.7	TAWN2970T	<input type="checkbox"/>	<input type="checkbox"/>								
		TAWNH2970T	<input type="checkbox"/>	<input type="checkbox"/>											
		29.8	TAWN2980T	<input type="checkbox"/>	<input type="checkbox"/>	167.2 (167)	195.2 (195)	255.2 (255)	32	WS508027T	TKY27T	WPT4405	MK1KS		
		TAWNH2980T	<input type="checkbox"/>	<input type="checkbox"/>											
	29.9	TAWN2990T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH2990T	<input type="checkbox"/>	<input type="checkbox"/>											
	30.0	TAWN3000T	●	<input type="checkbox"/>											
		TAWNH3000T	●	<input type="checkbox"/>											
		30.1	TAWN3010T	<input type="checkbox"/>	<input type="checkbox"/>	250 (249.8)	285 (284.8)	345 (344.8)	32	WS508027T	TKY27T	WPT4405	MK1KS		
		TAWNH3010T	<input type="checkbox"/>	<input type="checkbox"/>											
	30.2	TAWN3020T	<input type="checkbox"/>	<input type="checkbox"/>											
	TAWNH3020T	<input type="checkbox"/>	<input type="checkbox"/>												
30.3	TAWN3030T	<input type="checkbox"/>	<input type="checkbox"/>												
	TAWNH3030T	<input type="checkbox"/>	<input type="checkbox"/>												
	30.4	TAWN3040T	<input type="checkbox"/>	<input type="checkbox"/>											
		TAWNH3040T	<input type="checkbox"/>	<input type="checkbox"/>											

## Insert

H Type

**NEW**



Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWNH1400T</b>	●	□	14.0	7.6	5.0	TAWSNH 1400S16
<b>1410T</b>	●	□	14.1	7.6	5.0	TAWMNH 1400S16
<b>1420T</b>	●	□	14.2	7.6	5.0	TAWLNH 1400S16
<b>1430T</b>	●	□	14.3	7.6	5.0	
<b>1440T</b>	●	□	14.4	7.6	5.0	
<b>1450T</b>	●	□	14.5	7.5	5.0	
<b>1460T</b>	●	□	14.6	7.5	5.0	
<b>1470T</b>	●	□	14.7	7.5	5.0	TAWSNH 1500S20
<b>1480T</b>	●	□	14.8	7.5	5.0	
<b>1490T</b>	●	□	14.9	7.5	5.0	TAWMNH 1500S20
<b>1500T</b>	●	□	15.0	7.4	5.0	
<b>1510T</b>	●	□	15.1	7.4	5.0	TAWLNH 1500S20
<b>1520T</b>	●	□	15.2	7.4	5.0	
<b>1530T</b>	●	□	15.3	7.4	5.0	
<b>1540T</b>	●	□	15.4	7.4	5.0	
<b>1550T</b>	●	□	15.5	7.9	6.0	
<b>1560T</b>	●	□	15.6	7.9	6.0	
<b>1570T</b>	●	□	15.7	7.9	6.0	TAWSN 1600S20
<b>1580T</b>	●	□	15.8	7.9	6.0	
<b>1590T</b>	●	□	15.9	7.9	6.0	TAWMN 1600S20
<b>1600T</b>	●	□	16.0	7.8	6.0	
<b>1610T</b>	●	□	16.1	7.8	6.0	TAWLN 1600S20
<b>1620T</b>	●	□	16.2	7.8	6.0	
<b>1630T</b>	●	□	16.3	7.8	6.0	
<b>1640T</b>	●	□	16.4	7.8	6.0	
<b>1650T</b>	●	□	16.5	7.7	6.0	
<b>1660T</b>	●	□	16.6	7.7	6.0	
<b>1670T</b>	●	□	16.7	7.7	6.0	TAWSN 1700S20
<b>1680T</b>	●	□	16.8	7.7	6.0	
<b>1690T</b>	●	□	16.9	7.7	6.0	TAWMN 1700S20
<b>1700T</b>	●	□	17.0	7.6	6.0	
<b>1710T</b>	●	□	17.1	7.6	6.0	TAWLN 1700S20
<b>1720T</b>	●	□	17.2	7.6	6.0	
<b>1730T</b>	●	□	17.3	7.6	6.0	
<b>1740T</b>	●	□	17.4	7.6	6.0	
<b>1750T</b>	●	□	17.5	7.5	6.0	
<b>1760T</b>	●	□	17.6	7.5	6.0	
<b>1770T</b>	●	□	17.7	7.5	6.0	TAWSN 1800S20
<b>1780T</b>	●	□	17.8	7.5	6.0	
<b>1790T</b>	●	□	17.9	7.5	6.0	TAWMN 1800S20
<b>1800T</b>	●	□	18.0	7.4	6.0	
<b>1810T</b>	●	□	18.1	7.4	6.0	TAWLN 1800S20
<b>1820T</b>	●	□	18.2	7.4	6.0	
<b>1830T</b>	●	□	18.3	7.4	6.0	
<b>1840T</b>	●	□	18.4	7.4	6.0	

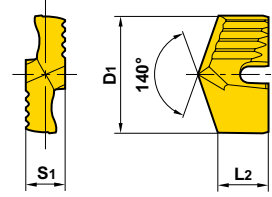
Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWNH1850T</b>	●	□	18.5	9.3	7.0	
<b>1860T</b>	●	□	18.6	9.3	7.0	
<b>1870T</b>	●	□	18.7	9.3	7.0	TAWSN 1900S25
<b>1880T</b>	●	□	18.8	9.3	7.0	
<b>1890T</b>	●	□	18.9	9.3	7.0	TAWMN 1900S25
<b>1900T</b>	●	□	19.0	9.2	7.0	
<b>1910T</b>	●	□	19.1	9.2	7.0	TAWLN 1900S25
<b>1920T</b>	●	□	19.2	9.2	7.0	
<b>1930T</b>	●	□	19.3	9.2	7.0	
<b>1940T</b>	●	□	19.4	9.2	7.0	
<b>1950T</b>	●	□	19.5	9.1	7.0	
<b>1960T</b>	●	□	19.6	9.1	7.0	
<b>1970T</b>	●	□	19.7	9.1	7.0	
<b>1980T</b>	●	□	19.8	9.1	7.0	TAWSN 2000S25
<b>1990T</b>	●	□	19.9	9.1	7.0	
<b>2000T</b>	●	□	20.0	9.0	7.0	TAWMN 2000S25
<b>2010T</b>	□	□	20.1	9.0	7.0	
<b>2020T</b>	□	□	20.2	9.0	7.0	TAWLN 2000S25
<b>2030T</b>	□	□	20.3	9.0	7.0	
<b>2040T</b>	□	□	20.4	9.0	7.0	
<b>2050T</b>	●	□	20.5	8.9	7.0	
<b>2060T</b>	□	□	20.6	8.9	7.0	
<b>2070T</b>	□	□	20.7	8.9	7.0	TAWSN 2100S25
<b>2080T</b>	□	□	20.8	8.9	7.0	
<b>2090T</b>	□	□	20.9	8.9	7.0	TAWMN 2100S25
<b>2100T</b>	●	□	21.0	8.8	7.0	
<b>2110T</b>	□	□	21.1	8.8	7.0	TAWLN 2100S25
<b>2120T</b>	□	□	21.2	8.8	7.0	
<b>2130T</b>	□	□	21.3	8.8	7.0	
<b>2140T</b>	□	□	21.4	8.8	7.0	
<b>2150T</b>	●	□	21.5	10.6	8.0	
<b>2160T</b>	□	□	21.6	10.6	8.0	
<b>2170T</b>	□	□	21.7	10.6	8.0	TAWSN 2200S25
<b>2180T</b>	□	□	21.8	10.6	8.0	
<b>2190T</b>	□	□	21.9	10.6	8.0	TAWMN 2200S25
<b>2200T</b>	●	□	22.0	10.5	8.0	
<b>2210T</b>	□	□	22.1	10.5	8.0	TAWLN 2200S25
<b>2220T</b>	□	□	22.2	10.5	8.0	
<b>2230T</b>	□	□	22.3	10.5	8.0	
<b>2240T</b>	□	□	22.4	10.5	8.0	
<b>2250T</b>	●	□	22.5	10.4	8.0	TAWSN 2300S25
<b>2260T</b>	□	□	22.6	10.4	8.0	TAWMN 2300S25
<b>2270T</b>	□	□	22.7	10.4	8.0	
<b>2280T</b>	□	□	22.8	10.4	8.0	TAWLN 2300S25
<b>2290T</b>	□	□	22.9	10.4	8.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWNH2300T</b>	●	<input type="checkbox"/>	23.0	10.3	8.0	TAWSN 2300S25
<b>2310T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.1	10.3	8.0	
<b>2320T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.2	10.3	8.0	
<b>2330T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.3	10.3	8.0	
<b>2340T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.4	10.3	8.0	
<b>2350T</b>	●	<input type="checkbox"/>	23.5	10.2	8.0	TAWSN 2400S32
<b>2360T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.6	10.2	8.0	
<b>2370T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.7	10.2	8.0	
<b>2380T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.8	10.2	8.0	
<b>2390T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.9	10.2	8.0	
<b>2400T</b>	●	<input type="checkbox"/>	24.0	10.1	8.0	
<b>2410T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.1	10.1	8.0	
<b>2420T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.2	10.1	8.0	
<b>2430T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.3	10.1	8.0	
<b>2440T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.4	10.1	8.0	
<b>2450T</b>	●	<input type="checkbox"/>	24.5	11.7	9.0	TAWSN 2500S32
<b>2460T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.6	11.7	9.0	
<b>2470T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.7	11.7	9.0	
<b>2480T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.8	11.7	9.0	
<b>2490T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.9	11.7	9.0	
<b>2500T</b>	●	<input type="checkbox"/>	25.0	11.6	9.0	
<b>2510T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.1	11.6	9.0	
<b>2520T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.2	11.6	9.0	
<b>2530T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.3	11.6	9.0	
<b>2540T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.4	11.6	9.0	
<b>2550T</b>	●	<input type="checkbox"/>	25.5	11.5	9.0	TAWSN 2600S32
<b>2560T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.6	11.5	9.0	
<b>2570T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.7	11.5	9.0	
<b>2580T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.8	11.5	9.0	
<b>2590T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.9	11.5	9.0	
<b>2600T</b>	●	<input type="checkbox"/>	26.0	11.4	9.0	
<b>2610T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.1	11.4	9.0	
<b>2620T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.2	11.4	9.0	
<b>2630T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.3	11.4	9.0	
<b>2640T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.4	11.4	9.0	
<b>2650T</b>	●	<input type="checkbox"/>	26.5	11.3	9.0	TAWSN 2700S32
<b>2660T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.6	11.3	9.0	
<b>2670T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.7	11.3	9.0	
<b>2680T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.8	11.3	9.0	
<b>2690T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.9	11.3	9.0	
<b>2700T</b>	●	<input type="checkbox"/>	27.0	11.2	9.0	
<b>2710T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.1	11.2	9.0	
<b>2720T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.2	11.2	9.0	
<b>2730T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.3	11.2	9.0	
<b>2740T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.4	11.2	9.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWNH2750T</b>	●	<input type="checkbox"/>	27.5	12.3	10.0	TAWSN 2800S32
<b>2760T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.6	12.3	10.0	
<b>2770T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.7	12.3	10.0	
<b>2780T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.8	12.3	10.0	
<b>2790T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.9	12.3	10.0	
<b>2800T</b>	●	<input type="checkbox"/>	28.0	12.2	10.0	
<b>2810T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.1	12.2	10.0	
<b>2820T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.2	12.2	10.0	
<b>2830T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.3	12.2	10.0	
<b>2840T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.4	12.2	10.0	
<b>2850T</b>	●	<input type="checkbox"/>	28.5	12.1	10.0	TAWSN 2900S32
<b>2860T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.6	12.1	10.0	
<b>2870T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.7	12.1	10.0	
<b>2880T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.8	12.1	10.0	
<b>2890T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.9	12.1	10.0	
<b>2900T</b>	●	<input type="checkbox"/>	29.0	12.0	10.0	
<b>2910T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.1	12.0	10.0	
<b>2920T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.2	12.0	10.0	
<b>2930T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.3	12.0	10.0	
<b>2940T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.4	12.0	10.0	
<b>2950T</b>	●	<input type="checkbox"/>	29.5	11.9	10.0	TAWSN 3000S32
<b>2960T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.6	11.9	10.0	
<b>2970T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.7	11.9	10.0	
<b>2980T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.8	11.9	10.0	
<b>2990T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.9	11.9	10.0	
<b>3000T</b>	●	<input type="checkbox"/>	30.0	11.8	10.0	
<b>3010T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.1	11.8	10.0	
<b>3020T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.2	11.8	10.0	
<b>3030T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.3	11.8	10.0	
<b>3040T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.4	11.8	10.0	

## Insert

### U Type



Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWN1550T</b>	●	□	15.5	7.9	6.0	TAWSN 1600S20
<b>1560T</b>	●	□	15.6	7.9	6.0	
<b>1570T</b>	●	□	15.7	7.9	6.0	
<b>1580T</b>	●	□	15.8	7.9	6.0	
<b>1590T</b>	●	□	15.9	7.9	6.0	
<b>1600T</b>	●	□	16.0	7.8	6.0	
<b>1610T</b>	●	□	16.1	7.8	6.0	
<b>1620T</b>	●	□	16.2	7.8	6.0	
<b>1630T</b>	●	□	16.3	7.8	6.0	
<b>1640T</b>	●	□	16.4	7.8	6.0	
<b>1650T</b>	●	□	16.5	7.7	6.0	TAWSN 1700S20
<b>1660T</b>	●	□	16.6	7.7	6.0	
<b>1670T</b>	●	□	16.7	7.7	6.0	
<b>1680T</b>	●	□	16.8	7.7	6.0	
<b>1690T</b>	●	□	16.9	7.7	6.0	
<b>1700T</b>	●	□	17.0	7.6	6.0	
<b>1710T</b>	●	□	17.1	7.6	6.0	
<b>1720T</b>	●	□	17.2	7.6	6.0	
<b>1730T</b>	●	□	17.3	7.6	6.0	
<b>1740T</b>	●	□	17.4	7.6	6.0	
<b>1750T</b>	●	□	17.5	7.5	6.0	TAWSN 1800S20
<b>1760T</b>	●	□	17.6	7.5	6.0	
<b>1770T</b>	●	□	17.7	7.5	6.0	
<b>1780T</b>	●	□	17.8	7.5	6.0	
<b>1790T</b>	●	□	17.9	7.5	6.0	
<b>1800T</b>	●	□	18.0	7.4	6.0	
<b>1810T</b>	●	□	18.1	7.4	6.0	
<b>1820T</b>	●	□	18.2	7.4	6.0	
<b>1830T</b>	●	□	18.3	7.4	6.0	
<b>1840T</b>	●	□	18.4	7.4	6.0	
<b>1850T</b>	●	□	18.5	9.3	7.0	TAWSN 1900S25
<b>1860T</b>	●	□	18.6	9.3	7.0	
<b>1870T</b>	●	□	18.7	9.3	7.0	
<b>1880T</b>	●	□	18.8	9.3	7.0	
<b>1890T</b>	●	□	18.9	9.3	7.0	
<b>1900T</b>	●	□	19.0	9.2	7.0	
<b>1910T</b>	●	□	19.1	9.2	7.0	
<b>1920T</b>	●	□	19.2	9.2	7.0	
<b>1930T</b>	●	□	19.3	9.2	7.0	
<b>1940T</b>	●	□	19.4	9.2	7.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWN1950T</b>	●	□	19.5	9.1	7.0	TAWSN 2000S25
<b>1960T</b>	●	□	19.6	9.1	7.0	
<b>1970T</b>	●	□	19.7	9.1	7.0	
<b>1980T</b>	●	□	19.8	9.1	7.0	
<b>1990T</b>	●	□	19.9	9.1	7.0	
<b>2000T</b>	●	□	20.0	9.0	7.0	
<b>2010T</b>	□	□	20.1	9.0	7.0	
<b>2020T</b>	□	□	20.2	9.0	7.0	
<b>2030T</b>	□	□	20.3	9.0	7.0	
<b>2040T</b>	□	□	20.4	9.0	7.0	
<b>2050T</b>	●	□	20.5	8.9	7.0	TAWSN 2100S25
<b>2060T</b>	□	□	20.6	8.9	7.0	
<b>2070T</b>	□	□	20.7	8.9	7.0	
<b>2080T</b>	□	□	20.8	8.9	7.0	
<b>2090T</b>	□	□	20.9	8.9	7.0	
<b>2100T</b>	●	□	21.0	8.8	7.0	
<b>2110T</b>	□	□	21.1	8.8	7.0	
<b>2120T</b>	□	□	21.2	8.8	7.0	
<b>2130T</b>	□	□	21.3	8.8	7.0	
<b>2140T</b>	□	□	21.4	8.8	7.0	
<b>2150T</b>	●	□	21.5	10.3	8.0	TAWSN 2200S25
<b>2160T</b>	□	□	21.6	10.3	8.0	
<b>2170T</b>	□	□	21.7	10.3	8.0	
<b>2180T</b>	□	□	21.8	10.3	8.0	
<b>2190T</b>	□	□	21.9	10.3	8.0	
<b>2200T</b>	●	□	22.0	10.2	8.0	
<b>2210T</b>	□	□	22.1	10.2	8.0	
<b>2220T</b>	□	□	22.2	10.2	8.0	
<b>2230T</b>	□	□	22.3	10.2	8.0	
<b>2240T</b>	□	□	22.4	10.2	8.0	
<b>2250T</b>	●	□	22.5	10.1	8.0	TAWSN 2300S25
<b>2260T</b>	□	□	22.6	10.1	8.0	
<b>2270T</b>	□	□	22.7	10.1	8.0	
<b>2280T</b>	□	□	22.8	10.1	8.0	
<b>2290T</b>	□	□	22.9	10.1	8.0	
<b>2300T</b>	●	□	23.0	10.0	8.0	
<b>2310T</b>	□	□	23.1	10.0	8.0	
<b>2320T</b>	□	□	23.2	10.0	8.0	
<b>2330T</b>	□	□	23.3	10.0	8.0	
<b>2340T</b>	□	□	23.4	10.0	8.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWN2350T</b>	●	<input type="checkbox"/>	23.5	9.9	8.0	TAWSN 2400S32
<b>2360T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.6	9.9	8.0	
<b>2370T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.7	9.9	8.0	
<b>2380T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.8	9.9	8.0	
<b>2390T</b>	<input type="checkbox"/>	<input type="checkbox"/>	23.9	9.9	8.0	
<b>2400T</b>	●	<input type="checkbox"/>	24.0	9.8	8.0	
<b>2410T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.1	9.8	8.0	
<b>2420T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.2	9.8	8.0	
<b>2430T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.3	9.8	8.0	
<b>2440T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.4	9.8	8.0	
<b>2450T</b>	●	<input type="checkbox"/>	24.5	11.1	9.0	TAWSN 2500S32
<b>2460T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.6	11.1	9.0	
<b>2470T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.7	11.1	9.0	
<b>2480T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.8	11.1	9.0	
<b>2490T</b>	<input type="checkbox"/>	<input type="checkbox"/>	24.9	11.1	9.0	
<b>2500T</b>	●	<input type="checkbox"/>	25.0	11.0	9.0	
<b>2510T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.1	11.0	9.0	
<b>2520T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.2	11.0	9.0	
<b>2530T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.3	11.0	9.0	
<b>2540T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.4	11.0	9.0	
<b>2550T</b>	●	<input type="checkbox"/>	25.5	10.9	9.0	TAWSN 2600S32
<b>2560T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.6	10.9	9.0	
<b>2570T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.7	10.9	9.0	
<b>2580T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.8	10.9	9.0	
<b>2590T</b>	<input type="checkbox"/>	<input type="checkbox"/>	25.9	10.9	9.0	
<b>2600T</b>	●	<input type="checkbox"/>	26.0	10.8	9.0	
<b>2610T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.1	10.8	9.0	
<b>2620T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.2	10.8	9.0	
<b>2630T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.3	10.8	9.0	
<b>2640T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.4	10.8	9.0	
<b>2650T</b>	●	<input type="checkbox"/>	26.5	10.7	9.0	TAWSN 2700S32
<b>2660T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.6	10.7	9.0	
<b>2670T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.7	10.7	9.0	
<b>2680T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.8	10.7	9.0	
<b>2690T</b>	<input type="checkbox"/>	<input type="checkbox"/>	26.9	10.7	9.0	
<b>2700T</b>	●	<input type="checkbox"/>	27.0	10.6	9.0	
<b>2710T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.1	10.6	9.0	
<b>2720T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.2	10.6	9.0	
<b>2730T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.3	10.6	9.0	
<b>2740T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.4	10.6	9.0	
<b>2750T</b>	●	<input type="checkbox"/>	27.5	12.1	10.0	TAWSN 2800S32
<b>2760T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.6	12.1	10.0	
<b>2770T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.7	12.1	10.0	
<b>2780T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.8	12.1	10.0	
<b>2790T</b>	<input type="checkbox"/>	<input type="checkbox"/>	27.9	12.1	10.0	
<b>2800T</b>	●	<input type="checkbox"/>	28.0	12.0	10.0	
<b>2810T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.1	12.0	10.0	
<b>2820T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.2	12.0	10.0	
<b>2830T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.3	12.0	10.0	
<b>2840T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.4	12.0	10.0	

Order Number	Stock		Dimensions (mm)			Applicable Holder
	VP15TF	VP10H	D1	L2	S1	
<b>TAWN2850T</b>	●	<input type="checkbox"/>	28.5	11.9	10.0	TAWSN 2900S32
<b>2860T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.6	11.9	10.0	
<b>2870T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.7	11.9	10.0	
<b>2880T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.8	11.9	10.0	
<b>2890T</b>	<input type="checkbox"/>	<input type="checkbox"/>	28.9	11.9	10.0	
<b>2900T</b>	●	<input type="checkbox"/>	29.0	11.8	10.0	
<b>2910T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.1	11.8	10.0	
<b>2920T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.2	11.8	10.0	
<b>2930T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.3	11.8	10.0	
<b>2940T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.4	11.8	10.0	
<b>2950T</b>	●	<input type="checkbox"/>	29.5	11.7	10.0	TAWSN 3000S32
<b>2960T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.6	11.7	10.0	
<b>2970T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.7	11.7	10.0	
<b>2980T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.8	11.7	10.0	
<b>2990T</b>	<input type="checkbox"/>	<input type="checkbox"/>	29.9	11.7	10.0	
<b>3000T</b>	●	<input type="checkbox"/>	30.0	11.6	10.0	
<b>3010T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.1	11.6	10.0	
<b>3020T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.2	11.6	10.0	
<b>3030T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.3	11.6	10.0	
<b>3040T</b>	<input type="checkbox"/>	<input type="checkbox"/>	30.4	11.6	10.0	

# TAW Drill

## Recommended Cutting Conditions

Work Material	Drill Diameter Conditions Hardness	φ14.0—φ15.4		φ15.5—φ18.4		φ18.5—φ21.4	
		Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤180HB	70 (60—90)	0.20 (0.15—0.25)	80 (60—100)	0.25 (0.20—0.30)	90 (70—110)	0.25 (0.20—0.30)
	180—280HB	70 (60—90)	0.20 (0.15—0.25)	80 (60—100)	0.25 (0.20—0.30)	80 (60—100)	0.25 (0.20—0.30)
Carbon Steel Alloy Steel	280—350HB	60 (50—80)	0.15 (0.12—0.18)	70 (50—90)	0.20 (0.15—0.25)	70 (50—90)	0.20 (0.15—0.25)
	≤200HB	50 (40—60)	0.15 (0.12—0.18)	50 (40—60)	0.15 (0.12—0.18)	60 (50—70)	0.20 (0.15—0.22)
M Stainless Steel	≤200HB	50 (40—60)	0.15 (0.12—0.18)	50 (40—60)	0.15 (0.12—0.18)	60 (50—70)	0.20 (0.15—0.22)
K Cast Iron	Tensile Strength ≤350MPa	70 (50—90)	0.20 (0.15—0.25)	80 (60—90)	0.25 (0.20—0.30)	90 (70—110)	0.25 (0.20—0.30)
	Tensile Strength ≤450MPa	70 (50—90)	0.20 (0.15—0.25)	80 (60—90)	0.25 (0.20—0.30)	80 (60—90)	0.25 (0.20—0.30)
Ductile Cast Iron	Tensile Strength ≤450MPa	70 (50—90)	0.20 (0.15—0.25)	80 (60—90)	0.25 (0.20—0.30)	80 (60—90)	0.25 (0.20—0.30)

Work Material	Drill Diameter Conditions Hardness	φ21.5—φ24.4		φ24.5—φ27.4		φ27.5—φ30.4	
		Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel	≤180HB	100 (80—120)	0.30 (0.25—0.35)	110 (80—120)	0.30 (0.25—0.35)	110 (80—120)	0.30 (0.25—0.35)
	180—280HB	90 (70—110)	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	280—350HB	80 (60—100)	0.25 (0.20—0.30)	90 (70—110)	0.25 (0.20—0.30)	90 (70—110)	0.25 (0.20—0.30)
	≤200HB	60 (50—70)	0.20 (0.15—0.22)	70 (60—80)	0.25 (0.20—0.28)	70 (60—80)	0.25 (0.20—0.28)
M Stainless Steel	≤200HB	60 (50—70)	0.20 (0.15—0.22)	70 (60—80)	0.25 (0.20—0.28)	70 (60—80)	0.25 (0.20—0.28)
K Cast Iron	Tensile Strength ≤350MPa	100 (80—110)	0.35 (0.25—0.40)	110 (90—120)	0.35 (0.25—0.40)	110 (90—120)	0.40 (0.30—0.45)
	Tensile Strength ≤450MPa	90 (60—100)	0.30 (0.25—0.35)	100 (80—110)	0.30 (0.25—0.35)	100 (80—110)	0.30 (0.25—0.35)
Ductile Cast Iron	Tensile Strength ≤450MPa	90 (60—100)	0.30 (0.25—0.35)	100 (80—110)	0.30 (0.25—0.35)	100 (80—110)	0.30 (0.25—0.35)

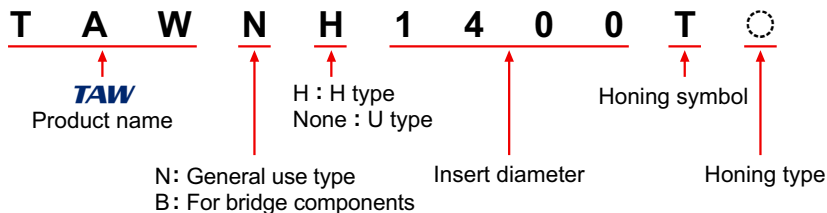
- Notes 1. When using the 8D type holder, reduce the cutting speed by approx. 20%.  
 2. When using the 8D type holder, it is recommended to drill a pilot guide hole.  
 3. H type honing is recommended when machining mild steel and stainless steel.

### Hone Width

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

(Honing standard)

(Insert Order Number)



Honing type	Honing width (mm)
F	None
G	0.02—0.05
H	0.05—0.10
No mark	0.10—0.15
K	0.15—0.20
S	0.20—0.25
M	0.25—0.30

### Notes on Use

#### Insert Installation

- Remove the clamp screw to install the insert. (H type insert)
- Loosen the clamp screw to install the insert. (U type 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)

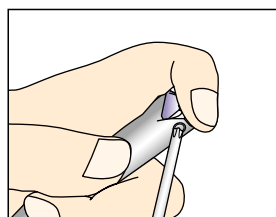


Fig. 1

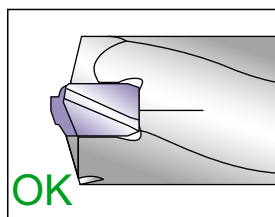
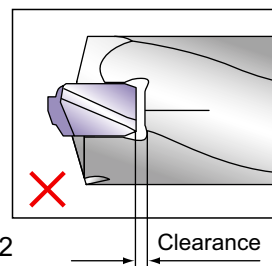


Fig. 2

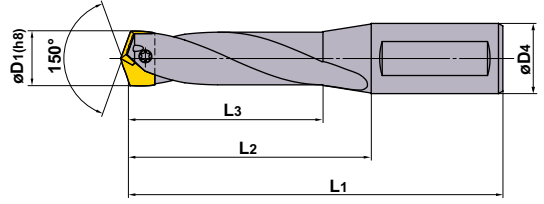


#### Insert Replacement

- 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.

# TAW Drill

(For Bridge Construction Parts)



## Holder

Drill Dia. Range D1 (mm)	Hole Depth (l/d)	Holder		Insert			Dimensions (mm)				Clamp Screw	Wrench	Plate	Anti-seize Lubricant
		Order Number	Stock	Drill Dia. D1 (mm)	Order Number	Stock	L3	L2	L1	D4				
24.5 24.6 24.7	3	TAWSB2500S32	●	24.5	TAWB2450T	●	88.6 (88)	110.6 (110)	170.6 (170)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWBH2450T	●								
	5	TAWMB2500S32	□	24.6	TAWB2460T	□	140.6 (140)	165.6 (165)	225.6 (225)	32	WS406023T	TKY25T	WPT4405	MK1KS
					TAWBH2460T	□								
26.5 26.7	3	TAWSB2700S32	●	26.5	TAWB2650T	□	94.6 (94)	115.6 (115)	175.6 (175)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWBH2650T	□								
	5	TAWMB2700S32	□	26.7	TAWB2670T	●	151.6 (151)	175.6 (175)	235.6 (235)	32	WS406024T	TKY25T	WPT4405	MK1KS
					TAWBH2670T	●								

Notes 1. The dimensions in brackets represent the sizes when TAWN-U type inserts are used.

2. Please contact us for any type that is not shown in this literature (e.g. different diameters and lengths and drills with chamfered cutting edges can be made to order).

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

## Insert

Shape	Order Number	Stock	Dimensions (mm)			Applicable Holder	Honing Width (mm)	Geometry
			VP15TF	D1	L2			
U type 	TAWB2450T	●	24.5	11.1	9.0	TAWSB2500S32 TAWMB2500S32	0.20-0.25	
	2460T	□	24.6	11.1	9.0			
	2470T	●	24.7	11.1	9.0			
	2650T	□	26.5	10.7	9.0	TAWSB2700S32 TAWMB2700S32		
	2670T	●	26.7	10.7	9.0			
H type 	TAWBH2450T	●	24.5	11.7	9.0	TAWSB2500S32 TAWMB2500S32	0.20-0.25	
	2460T	□	24.6	11.7	9.0			
	2470T	●	24.7	11.7	9.0			
	2650T	□	26.5	11.3	9.0	TAWSB2700S32 TAWMB2700S32		
	2670T	●	26.7	11.3	9.0			

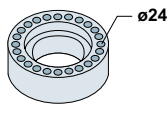
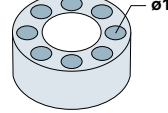
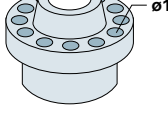
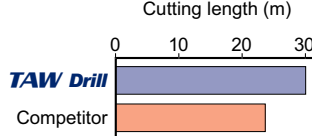
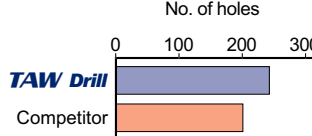
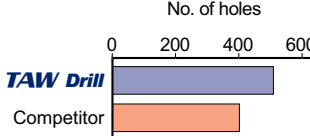
● : Inventory maintained. (Note: 2 inserts in one pack) □ : Non stock, produced to order only.

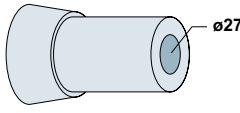
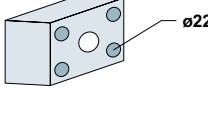
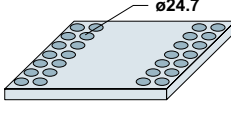
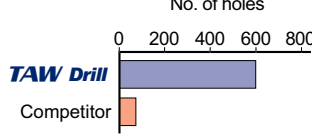
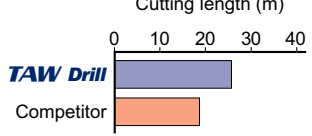
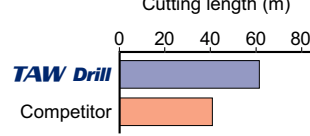
## Recommended Cutting Conditions

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

# TAW Drill

## 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	70	80
	Feed (mm/rev)	0.3	0.3	0.3
	Revolution (min <sup>-1</sup> )	1194	1238	1582
	Feed Rate (mm/min)	358	371	475
Coolant		Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)
Machine Type		Machining centre	Machining centre	Machining centre
Result		Cutting length (m) 	No. of holes 	No. of holes 

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	70	60
	Feed (mm/rev)	0.3	0.2	0.3
	Revolution (min <sup>-1</sup> )	943	1013	773
	Feed Rate (mm/min)	283	203	232
Coolant		Water Soluble Oil (Internal coolant)	Water Soluble Oil (Internal coolant)	Mist coolant
Machine Type		NC lathe	Machining centre	Gundrill machine
Result		No. of holes 	Cutting length (m) 	Cutting length (m) 

**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, please use only the correct wrench. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc. ●Grinding or heating of cutting tools produces dust and mist. Inhaling large amount of dust or contacting with eyes and skins may harm your body.

## MITSUBISHI MATERIALS CORPORATION



The Scope of the Registration: Design, Development and Production of Compacted Carbide Tools and Carbide Blanks



The Scope of the Registration: Design, Development and Production of Cutting Tools, Wear-resistant Tools, Rock Drilling Tools, Cemented Carbide Blanks and Coated Products



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