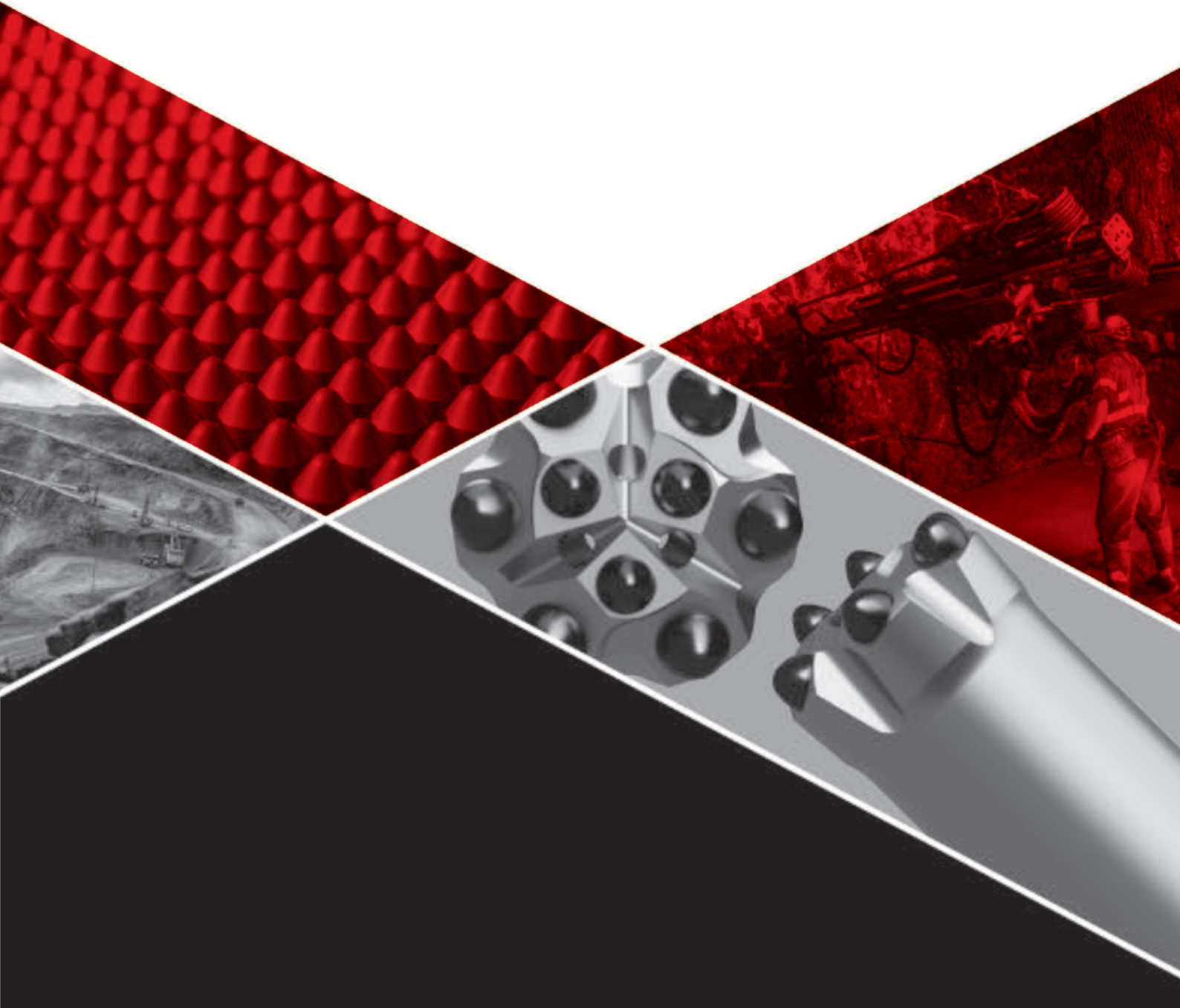


Jun-2024 Update RT01-E-2

 **MITSUBISHI MATERIALS HARDMETAL CORPORATION**

TOP HAMMER TOOLS

ADVANCED MANUFACTURING METHODS FOR CONSISTENTLY HIGHER QUALITY





For People, Society and the Earth

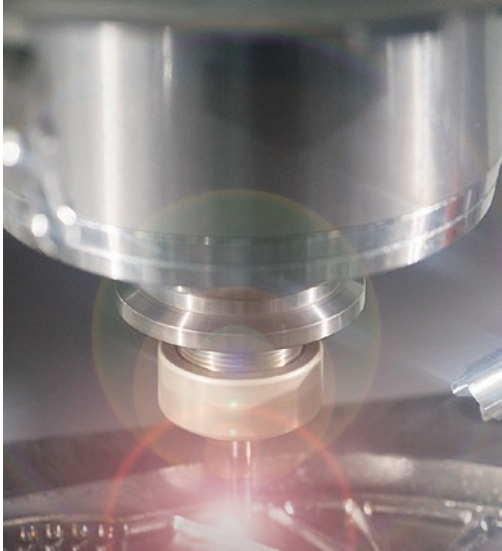
Based on the corporate philosophy of the Mitsubishi Materials Corporation Group
“For People, Society and the Earth”, MITSUBISHI MATERIALS HARDMETAL Corporation develops,
manufactures and markets high-quality wear resistant tools,
rock tools and carbide materials for various infrastructure industries.



WEAR RESISTANT TOOLS



ROCK TOOLS



CARBIDE MATERIALS



Brief History

1947 Mitsubishi Metal Mining Co., Ltd. (now, Mitsubishi Materials Corporation) started to manufacture rock tools.



Mitsubishi Metal Mining Co., Ltd.

1981 Gifu plant of OTE Kosan CO., Ltd. (now, MITSUBISHI MATERIALS HARDMETAL Corporation) was established and started to manufacture rock tools.

1990 The name of the company was changed from of OTE Kosan CO., Ltd. to OTE Technological Engineering Corporation.



OTE Technological Engineering Corporation, Gifu Plant

1997 Techno OTE Kako CO., Ltd. changed its company name to RYOTEC CO., Ltd. OTEC (THAILAND) CO., Ltd. was established to manufacture rock tools.



OTEC(THAILAND) 2005-2007



OTEC(THAILAND) 2007-

2000 Rock tools division obtained ISO14001 certification.

2005 Rock tools division obtained the ISO9001 certification.

2011 RYOTEC CO., Ltd. and MMC Hard Materials CO., Ltd. merge to form MMC RYOTEC Corporation.

2025 The company name was changed to MITSUBISHI MATERIALS HARDMETAL Corporation.

Efforts for Environmental Conservation

Initiatives for MITSUBISHI MATERIALS HARDMETAL Corporation SDGs

Considering how to preserve the global environment is one of the major themes for all companies. We started to work on this problem from the early stages of our business because one of our main business is to manufacture construction tools that dig the earth.

We contribute to the global environment thru development and manufacturing.

SUSTAINABLE DEVELOPMENT GOALS



Image to aim for	Our activities	
Building a safe and clean society		·Contributing to water-well drilling.
		·Contributing to the construction of solar panels and geothermal power generation facilities.
Building a prosperous society		·Contributing to the development of industrial infrastructure.
		·Contributing to housing foundations and disaster prevention.
Building a recycling-oriented society		·Contributing to a recycling-oriented society by recycling various raw materials such as cemented carbide.
Building a low-carbon society		·Contributing to customer's operation time saving by providing efficient excavation tools.

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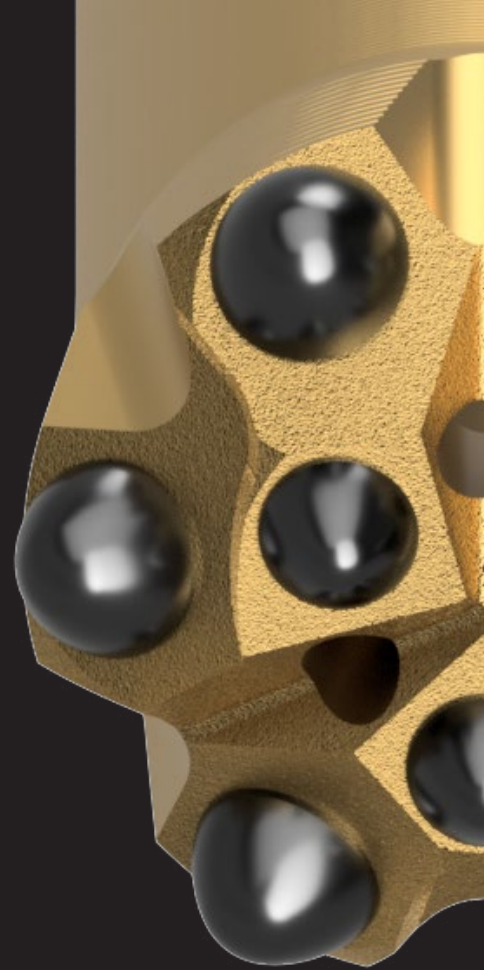
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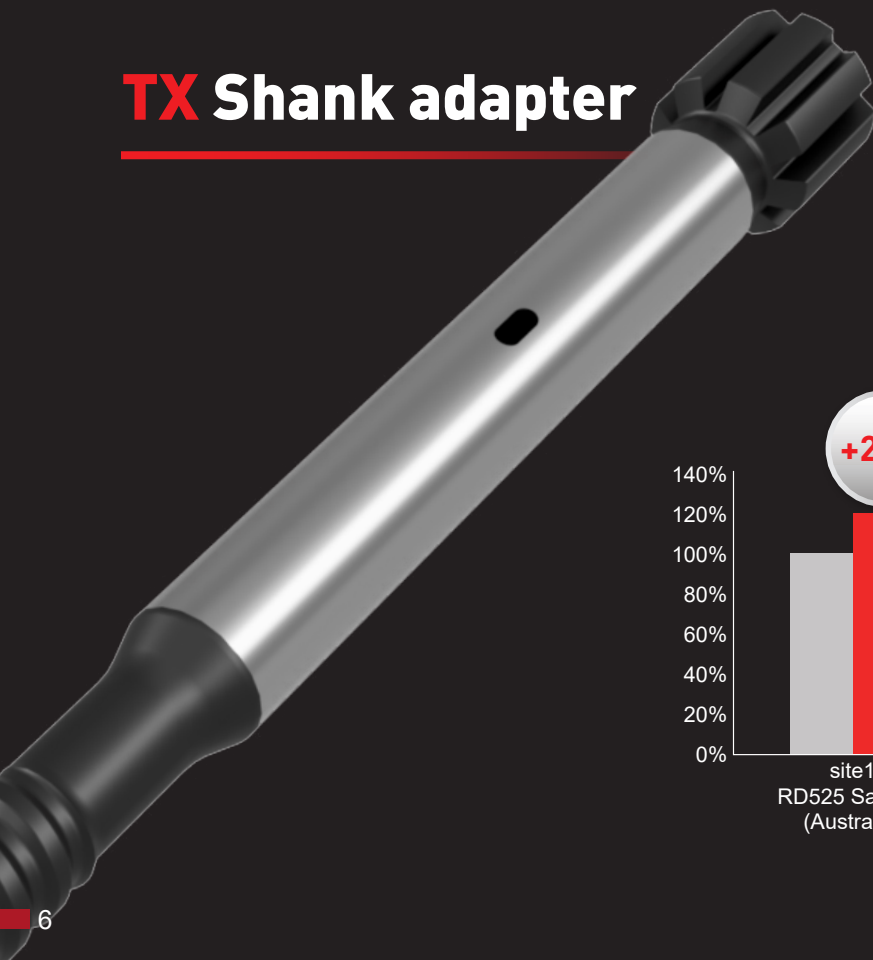
TXseries

TX series are optimized for high power drifters



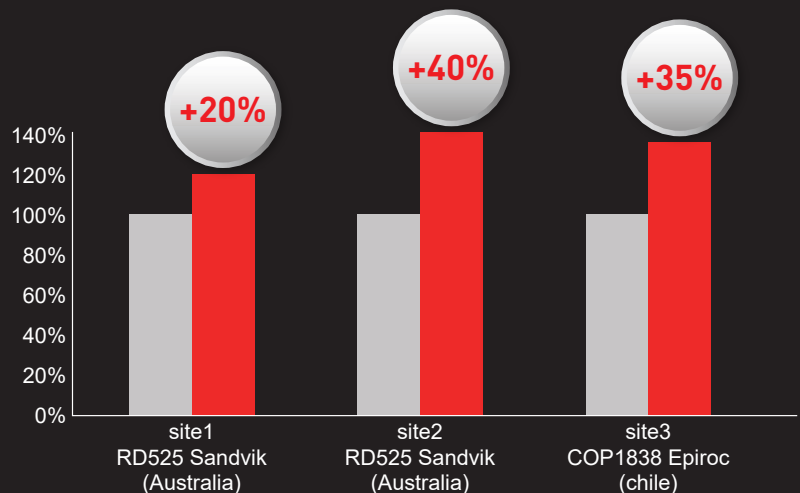
Drilling **T**o the next

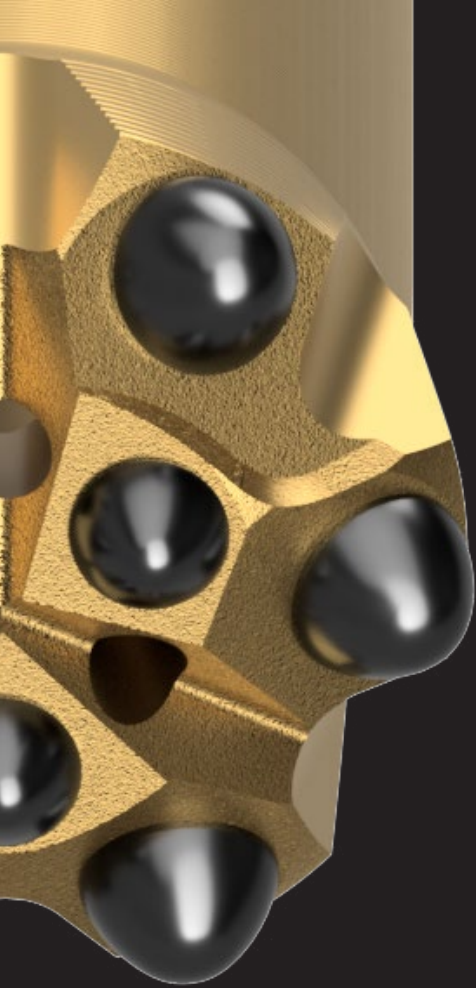
TX Shank adapter



Longer

TX shank adapter and stable drilling performance manufacturing method.

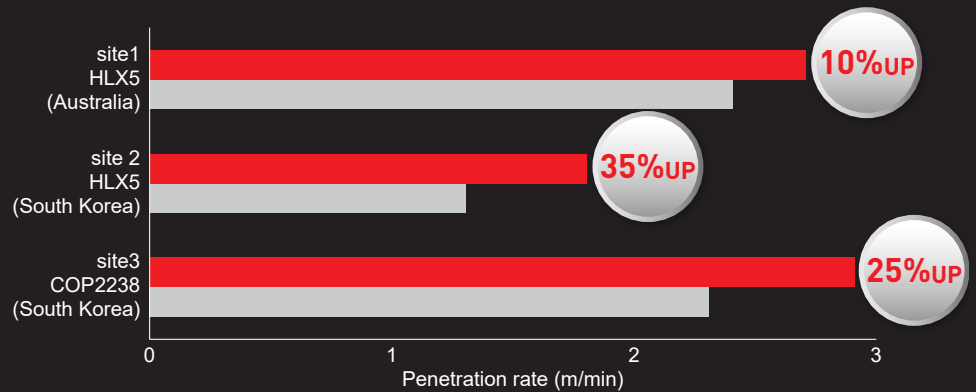




TX button bit

Higher Penetration rate

To shorten a drilling time will improve your productivity and reduce drilling costs.



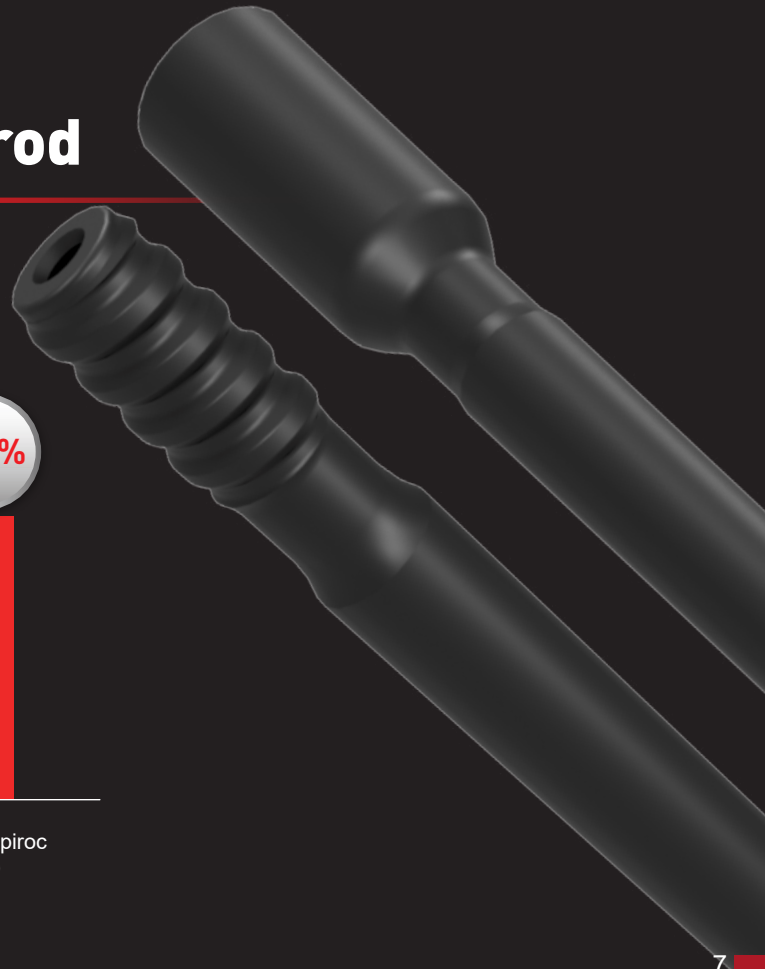
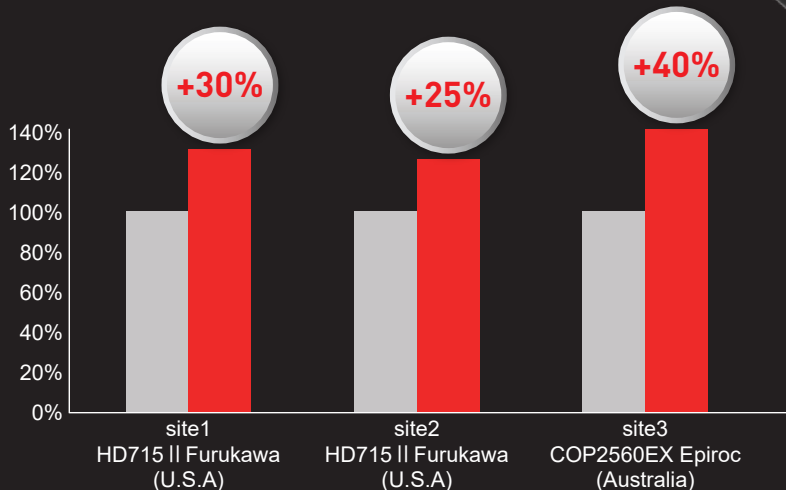
stage X To be continued...



service life

TX speed rod provide a
nce with our innovative

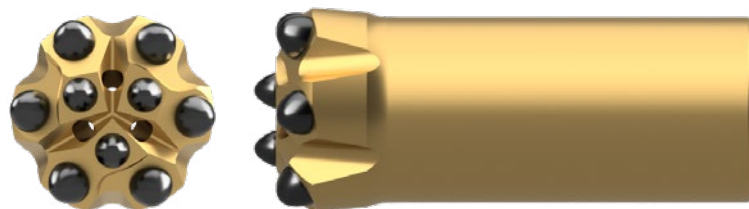
TX speed rod



Product Identification Code

THREADED BIT

Drifting & Tunnelling equipment



32RT P V S 45 BB 23 M TX

								Special design (TX: TX Series)
								Gauge angle (L: 30°, M: 35°, H: 40°)
								Face design (Refer to page.14)
								Carbide shape (R: Round, BB: Semi-ballistic, B: Ballistic, SA: Spike)
								Gauge diameter(mm)
								Skirt type (S: Straight skirt, R: Retractable skirt)
								Flushing hole type (V: Face flushing, W: Face + Side flushing, J: Face + Reverse flushing)
								Bit type (P: Button type, C: Cross type)
								Thread type (25RT: R25, 28RT: R28, 32RT: R32, 34NR: NR34, 35RT: R35)

THREADED BIT

Bench & Long hole drilling equipment



38M P V S 64 R 15 M

								Gauge angle (L: 30°, M: 35°, H: 40°)
								Face design (Refer to page.15)
								Carbide shape (R: Round, BB: Semi-ballistic, B: Ballistic, SA: Spike)
								Gauge diameter(mm)
								Skirt type (S: Straight skirt, R: Retractable skirt)
								Flushing hole type (V: Face flushing, W: Face + Side flushing, J: Face + Reverse flushing)
								Bit type (P: Button type, X: Cross type)
								Thread type (38M: T38, 45M: T45, 51M: T51, 58WD: ST58, 68WD: ST68)

DRIFTING ROD



E H35 M38 R32 - 4310

				Total length (mm)
			Thread type (R32 : 32RT on bit end)	
		Thread type (M38 : T38 on shank end)		
	Rod section (H32 : Hex 32mm (1 1/4"), H25 : Hex 25mm (1"), H28 : Hex 28mm (1 1/8"), H35 : Hex 35mm (1 3/8"))			
E: Extension rod				

EXTENSION ROD



E R38 M38 - 3050

			Total length (mm)
		Thread type (M38 : T38 on each end)	
	Rod section (R38 : Round ø38mm (1 1/2"))		
E: Extension rod			

MALE / FEMALE ROD



E R38 M38 MF - 3660 H

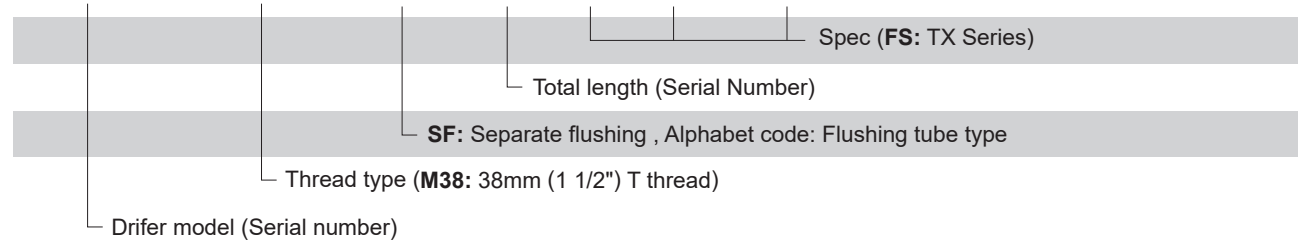
				Spec (F : TX Series, H : HF-hardened)
			Effective Length (mm)	
		MF : Male / Female thread rod		
		Thread type (M38 : T38 on each end)		
	Rod section (R38 : Round ø38mm(1 1/2"))			
E: Extension rod				

Product Identification Code

SHANK ADAPTER



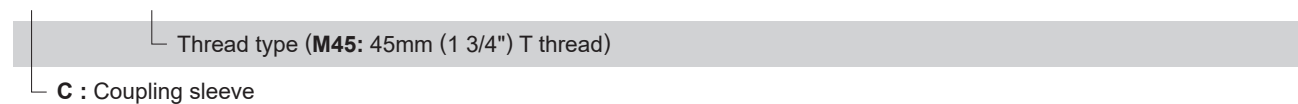
S268 M38 SF A G H -FS



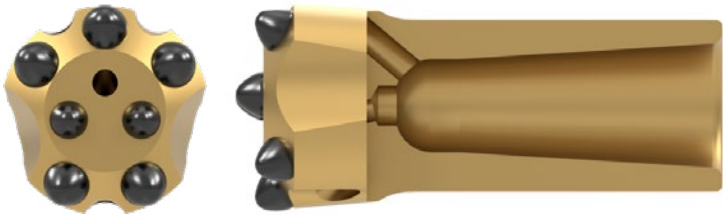
COUPLING SLEEVE



C M45



TAPERED BIT

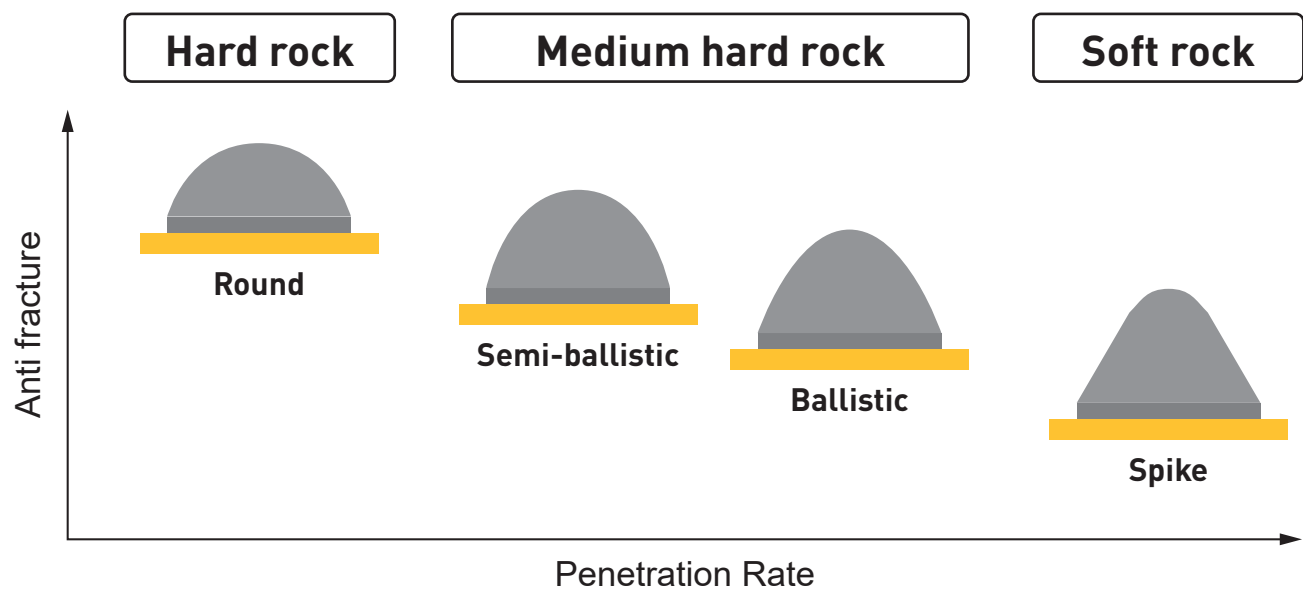


T 22 P 32 C BB 06

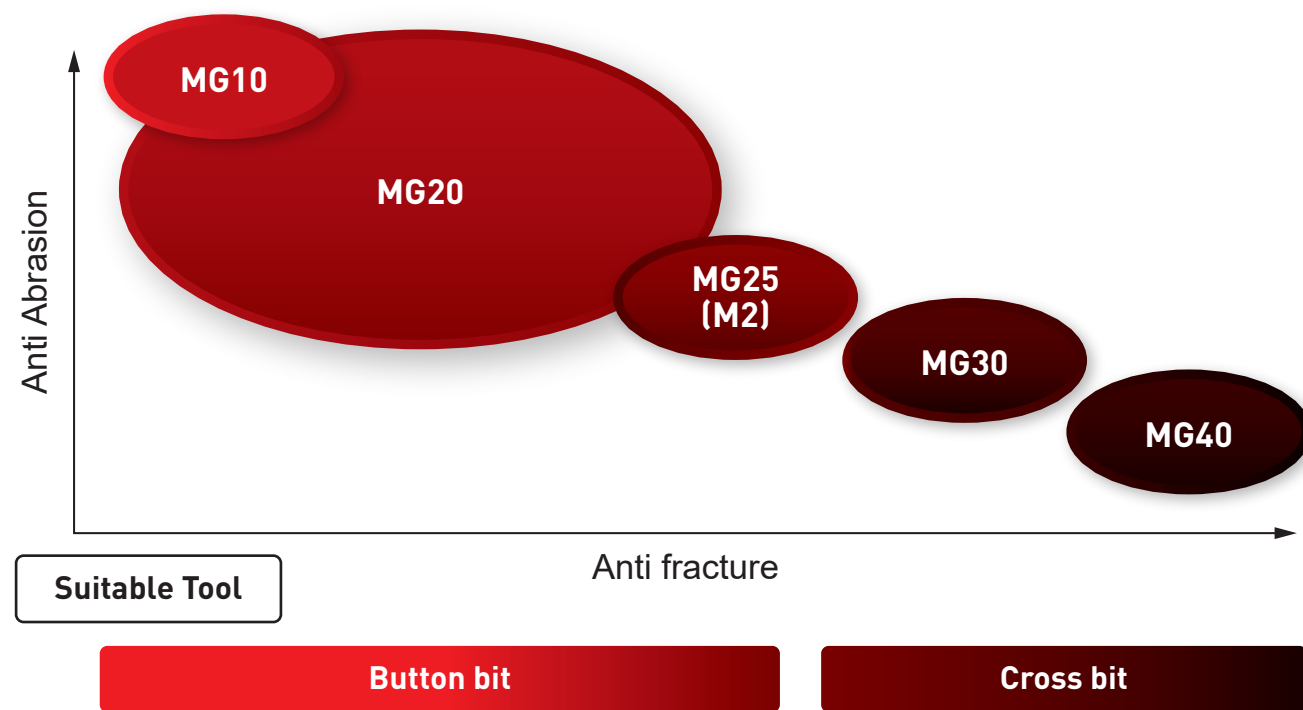
T	22	P	32	C	BB	06	Face design (06 : 7 buttons, 03 : 9 buttons)
							Carbide shape (R : Round, BB : Semi-ballistic, SA : Spike)
				C			C : Taper angle (Refer to page.17)
							Gauge diameter(mm)
							Bit type (P : Button type, C : Cross type, I : Chisel type)
							22 : Inner diameter of bit skirt 22mm (7/8")
							T: Tapered bit

1. Carbide Selection Guide

Carbide shape

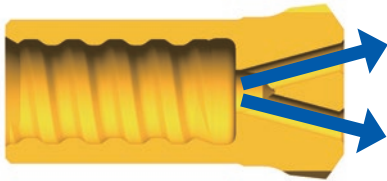
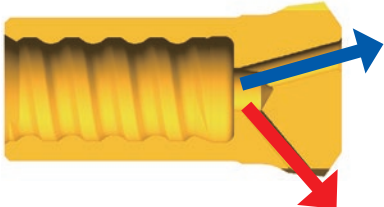
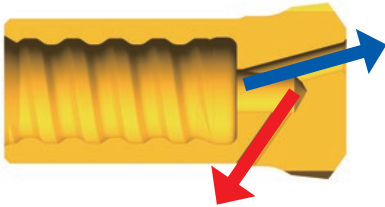


Carbide grade

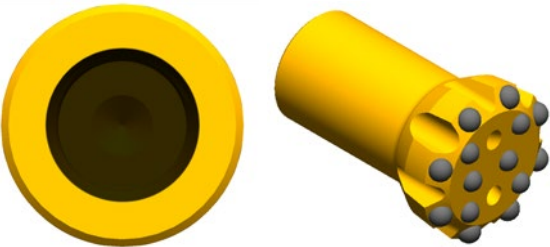
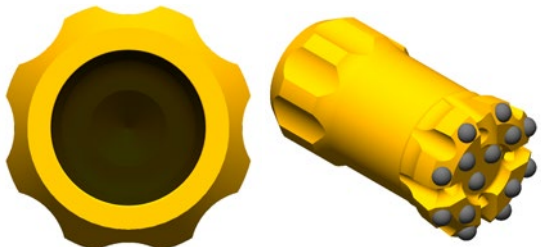


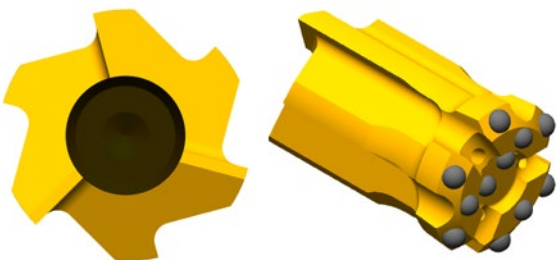
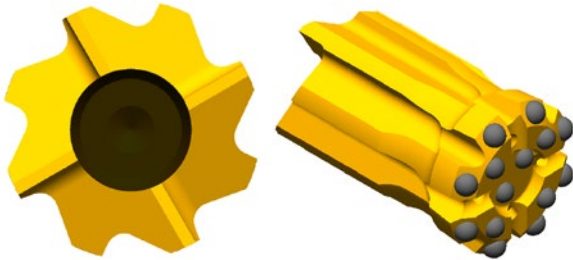
2. Body Design Selection Guide

Flushing hole style

V: Face flushing	W: Face + Side flushing	J: Face + Reverse flushing
		
Design for efficient flushing. (Standard flushing hole design)	Design for dispersed flushing	Design for efficient flushing at the rear of the tool.

Skirt style

S: Straight skirt	G: Guide skirt
	
Design for efficient flushing. (Standard bit skirt design)	Designed to achieve less hole deviation to lower your blasting cost and improve the life of the other drill string components.

R: Retractor skirt	
	

- Designed to improve getting the bit back of the hole in broken ground conditions.
- Our retrac bit design gives a straighter hole, especially in difficult drilling conditions.

3. Bit Design Selection Guide

For Drifting & Tunneling

Type		TX	03	23	06	08	Cross
Face shape		TX face	Flat face	Groove	Flat face	Flat face	Cross
Face design							
Rock hardness	Hard	Good	Excellent		Excellent		
	Medium-hard	Excellent	Good	Excellent	Good	Good	Good
	Soft	Excellent		Good		Excellent	Good

High Speed Drilling



03



06



08



23



TX

Excellent

Anti Abrasion



08



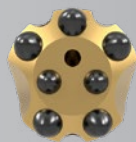
23



03



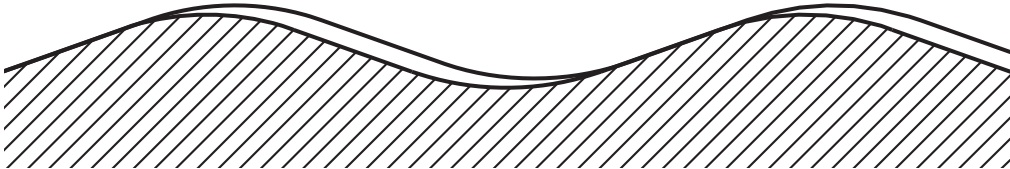
TX



06

Excellent

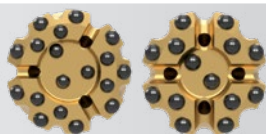
Thread compatibility

Thread type	R thread (R25, R28, R32, R35, R38)
Our thread	R thread (R25, R28, R32, NR34, R35, R38)
Thread form	

For Bench & Long hole drilling

Type		15	23&25	53&55&41	83&85	Cross
Face shape		Flat Face	Groove	Drop Center	Convex	Cross
Face design						
Rock hardness	Hard	Excellent	Good			
	Medium-hard	Good	Excellent	Good		Good
	Soft			Excellent	Excellent	Good

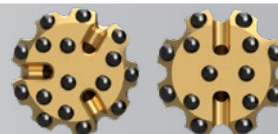
High Speed Drilling



Drop Center



Flat Face



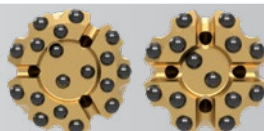
Groove

Excellent

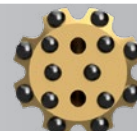
Anti Abrasion



Groove



Drop Center



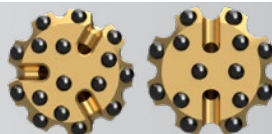
Flat Face

Excellent

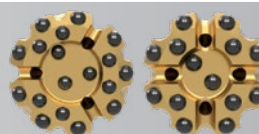
Straightness



Flat Face



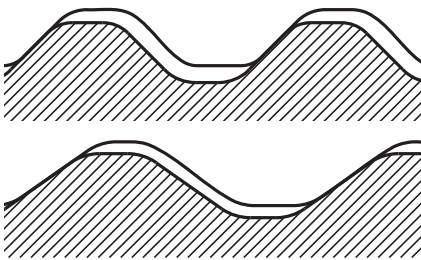
Groove



Drop Center

Excellent

Thread compatibility

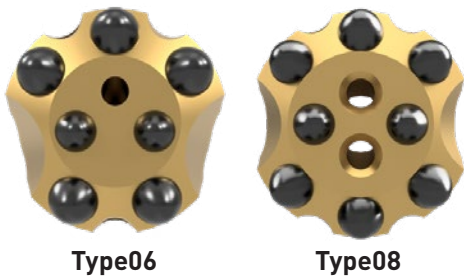
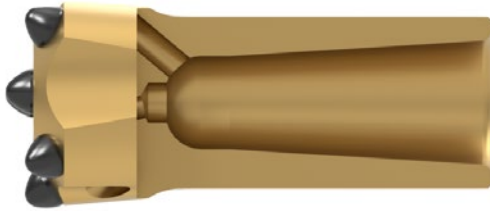
Thread type	T thread (T38, T45, T51, GT60)	ST thread (ST58, ST68)
Our thread	M38, M45, M51, GM60	WD58, WD68
Thread form		



TAPERED BIT

TAPERED BIT

HEX 22 SERIES



Type06

Type08

Hex	Taper angle	Rod point dia.(d)	Type	Taper Style
22	4°46'	19.1	T22E	Long
22	7°	16	T22F	Long
22	11°	17.7	T22G	Short
22	11°	15.5	T22D	Long
22	12°	15.5	T22C	Long

Hex 22 4° 46' Tapered bit for long skirt



Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T22P33EBB065Z	33	1 5/16"	70	2 3/4"	35	5 × φ7	2 × φ7	1	1	0.3
T22P35EBB065	35	1 3/8"	75	2 61/64"	35	5 × φ8	2 × φ8	1	2	0.3
T22P40EBB065	40	1 9/16"	75	2 61/64"	35	5 × φ8	2 × φ8	1	1	0.4
T22P43EBB065	43	1 11/16"	75	2 61/64"	35	5 × φ9	2 × φ9	1	2	0.5

Hex 22 7° Tapered bit for long skirt



Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T22P30FBB065Z	30	1 3/16"	75	2 61/64"	35	5 × φ7	2 × φ6	1	2	0.2
T22P31FBB065Z	31	1 7/32"	75	2 61/64"	35	5 × φ7	2 × φ7	1	2	0.3
T22P32FBB065Z	32	1 1/4"	75	2 61/64"	35	5 × φ7	2 × φ7	1	2	0.3
T22P33FBB065Z	33	1 5/16"	75	2 61/64"	35	5 × φ7	2 × φ7	1	2	0.3
T22P34FBB065Z	34	1 11/32"	75	2 61/64"	35	5 × φ7	2 × φ7	1	2	0.3
T22P36FBB065Z	36	1 13/32"	75	2 61/64"	40	5 × φ8	2 × φ7	1	1	0.3
T22P38FBB065Z	38	1 1/2"	75	2 61/64"	40	5 × φ8	2 × φ8	1	1	0.4
T22P40FBB065Z	40	1 9/16"	75	2 61/64"	40	5 × φ9	2 × φ8	1	1	0.4

Hex 22 11° Tapered bit for short skirt



Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T22P32GGB065Z	32	1 1/4"	55	2 11/64"	35	5 × φ7	2 × φ7	1	2	0.3
T22P33GGB065Z	33	1 5/16"	50	1 31/32"	40	5 × φ7	2 × φ7	1	1	0.3
T22P35GGB065Z2	35	1 3/8"	55	2 11/64"	40	5 × φ7	2 × φ7	1	1	0.3
T22P36GGB065Z2	36	1 13/32"	50	1 31/32"	40	5 × φ8	2 × φ7	1	1	0.3
T22P38GGB065Z2	38	1 1/2"	50	1 31/32"	40	5 × φ9	2 × φ7	1	1	0.3
T22P40GGB065Z1	40	1 9/16"	50	1 31/32"	40	5 × φ9	2 × φ8	1	1	0.4
T22P41GGB065Z3	41	1 5/8"	50	1 31/32"	40	5 × φ9	2 × φ8	1	1	0.4
T22P42GGB065Z	42	1 21/32"	50	1 31/32"	40	5 × φ9	2 × φ9	1	2	0.6

Hex 22 11° Tapered bit for long skirt



Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T22P32DBB065	32	1 1/4"	65	2 9/16"	35	5 × φ7	2 × φ7	1	1	0.3
T22P33DBB065Z	33	1 5/16"	65	2 9/16"	40	5 × φ7	2 × φ7	1	1	0.3
T22P34DBB065Z	34	1 11/32"	65	2 9/16"	40	5 × φ7	2 × φ7	1	1	0.3
T22P35DBB065Z1	35	1 3/8"	65	2 9/16"	40	5 × φ7	2 × φ7	1	1	0.3
T22P36DBB065Z1	36	1 13/32"	65	2 9/16"	40	5 × φ8	2 × φ7	1	1	0.3
T22P38DBB065Z1	38	1 1/2"	65	2 9/16"	40	5 × φ8	2 × φ8	1	1	0.3
T22P40DBB065Z	40	1 9/16"	70	2 3/4"	40	5 × φ9	2 × φ8	1	1	0.4
T22P41DBB065Z	41	1 5/8"	65	2 9/16"	40	5 × φ9	2 × φ8	1	1	0.4

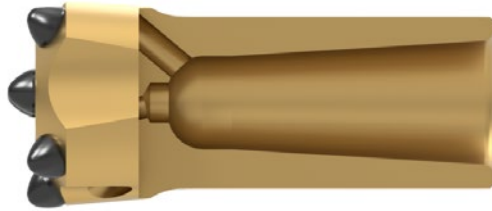
Hex 22 12° Tapered bit for long skirt



Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T22P32CBB065Z	32	1 1/4"	65	2 9/16"	35	5 × φ7	2 × φ7	1	1	0.2
T22P33CBB065	33	1 5/16"	70	2 3/4"	35	5 × φ7	2 × φ7	1	1	0.3
T22P35CBB065Z	35	1 3/8"	65	2 9/16"	35	5 × φ9	2 × φ7	1	1	0.4
T22P38CBB065	38	1 1/2"	70	2 3/4"	35	5 × φ8	2 × φ8	1	1	0.4
T22P41CBB065Z	41	1 5/8"	65	2 9/16"	40	5 × φ9	2 × φ8	1	1	0.4
T22P32CBB084	32	1 1/4"	70.5	2 25/32"	40	6 × φ7	2 × φ7	2	1	0.3
T22P33CBB084	33	1 5/16"	70.5	2 25/32"	40	6 × φ7	2 × φ7	2	1	0.3
T22P35CBB08Z	35	1 3/8"	70	2 3/4"	40	6 × φ8	2 × φ7	2	2	0.4

TAPERED BIT

HEX 25 SERIES



Type06

Hex	Taper angle	Rod point dia.(d)	Type	Taper Style
25	7°	20	T25B	Long
25	7°	21.2	T25F	Short

Hex 25 7° Tapered bit for long skirt



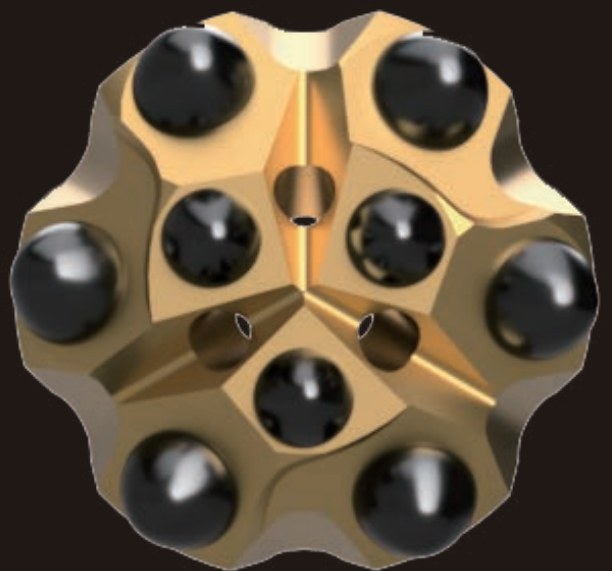
Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T25P38BBB065Z	38	1 1/2"	75	2 61/64"	40	5 × φ8	2 × φ8	1	2	0.4
T25P40BBB065Z	40	1 9/16"	75	2 61/64"	40	5 × φ8	2 × φ8	1	2	0.5
T25P41BBB065Z	41	1 5/8"	75	2 61/64"	40	5 × φ9	2 × φ8	1	2	0.5
T25P43BBB06Z	43	1 11/16"	75	2 61/64"	40	5 × φ9	2 × φ9	1	2	0.5

Hex 25 7° Tapered bit for short skirt



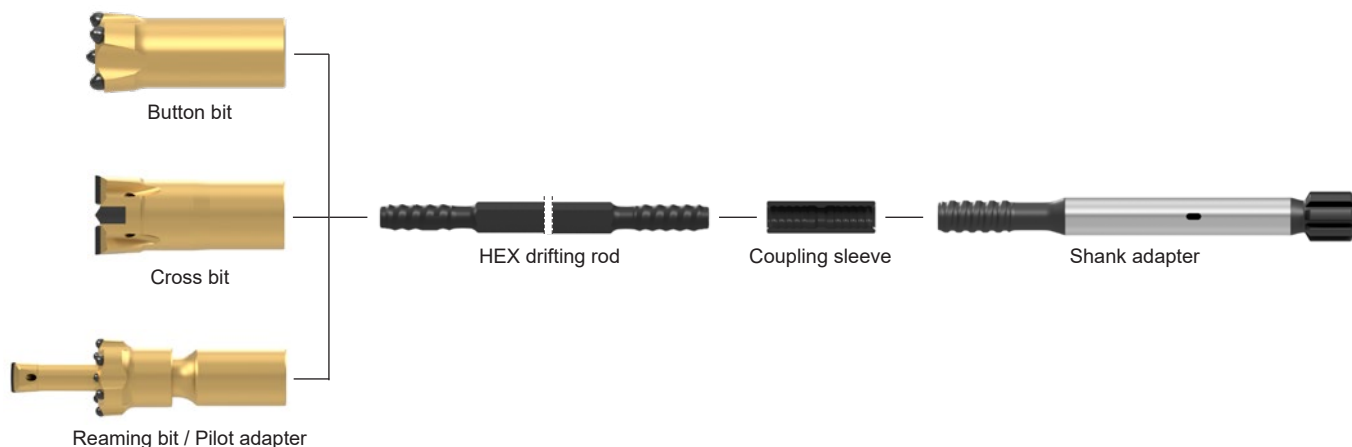
Part Number	Gauge Diameter		Length		Gauge Angle[°]	Gauge Button	Face Button	Blow hole		Weight
	(mm)	(in)	(mm)	(in)		No×Dia	No×Dia	Side	Face	
T25P41FBB065Z	41	1 5/8"	60	2 23/64"	40	5 × φ9	2 × φ8	1	2	0.4
T25P43FBB065Z	43	1 11/16"	60	2 23/64"	40	5 × φ10	3 × φ9	1	2	0.4

DRIFTING & TUNNELLING EQUIPMENT



DRIFTING&TUNNELING DRILLING EQUIPMENT

R25 SERIES (1") (Recommended Gauge diameter $\phi 33$ - $\phi 45$)



Various type of products are being released. Please feel free to contact us.



Button Bit Type 23



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
25RTPWS37R23L	25RTPWS37BB23L	37	1 15/32"	30°	6× $\phi 8$	3× $\phi 7$	1	3	0.5
25RTPWS38R23L	25RTPWS38BB23L	38	1 1/2"	30°	6× $\phi 8$	3× $\phi 7$	1	3	0.5
25RTPWS41R23L	25RTPWS41BB23L	41	1 5/8"	30°	6× $\phi 8$	3× $\phi 8$	1	3	0.6
25RTPWS43R23L	25RTPWS43BB23L	43	1 11/16"	30°	6× $\phi 9$	3× $\phi 8$	1	3	0.6
25RTPWS45R23L	25RTPWS45BB23L	45	1 3/4"	30°	6× $\phi 9$	3× $\phi 8$	1	3	0.7



Button Bit with Type 06



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
25RTPWS33R06L	25RTPWS33BB06L	33	1 5/16"	30°	5× $\phi 8$	2× $\phi 7$	1	1	0.4
25RTPWS35R06M	25RTPWS35BB06M	35	1 3/8"	35°	5× $\phi 8$	2× $\phi 8$	1	1	0.4
25RTPWS37R06L	25RTPWS37BB06L	37	1 15/32"	30°	5× $\phi 9$	2× $\phi 7$	1	1	0.5
25RTPWS38R06L	25RTPWS38BB06L	38	1 1/2"	30°	5× $\phi 9$	2× $\phi 8$	1	1	0.5
25RTPWS41R06L	25RTPWS41BB06L	41	1 5/8"	30°	5× $\phi 10$	2× $\phi 8$	2	1	0.6
25RTPWS43R06L	25RTPWS43BB06L	43	1 11/16"	30°	5× $\phi 10$	2× $\phi 8$	2	1	0.6
25RTPWS45R06L	25RTPWS45BB06L	45	1 3/4"	30°	5× $\phi 11$	2× $\phi 9$	1	2	0.7



Cross Bit



Part Number	Gauge Diameter		Carbide size	Blow hole		Weight(kg)
	(mm)	(in)		Side	Face	
25RTC35V	35	1 3/8"	10×19	2	1	0.4
25RTC38V	38	1 1/2"	10×19	2	1	0.5
25RTC41V	41	1 5/8"	10×19	2	1	0.6
25RTC45V	45	1 3/4"	10×19	2	1	0.7



Reaming Bit 6° Taper



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WTHP64R11	64	2 1/2"	30°	6×φ9	3×φ8	—	—	1.0
WTHP76R11	76	3"	30°	6×φ10	6×φ9	—	—	1.3
WTHP89R15	89	3 1/2"	30°	8×φ11	8×φ10	—	—	1.7



Pilot Adapter 6° Taper

Part Number	Gauge Diameter		Carbide size	Blow hole		Weight(kg)
	(mm)	(in)		Side	Front	
WR25THI26B	26	1"	8×12	1	1	1.1

HEX Rod



Part Number	Thread		Hex		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
EH25R32R25-2175	R25	R32	25	1"	2175	7' 1 5/8"	8.4
EH25R32R25-2475			25	1"	2475	8' 2"	10.2
EH25R32R25-2600			25	1"	2600	8' 6"	10.7
EH25R32R25-2800			25	1"	2800	9' 2"	11.2
EH25R32R25-3100			25	1"	3100	10' 2"	12.7

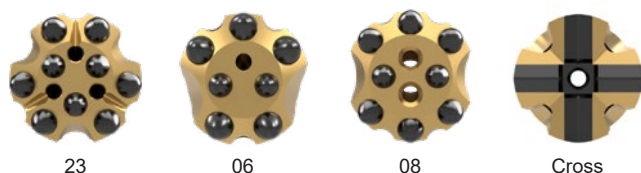
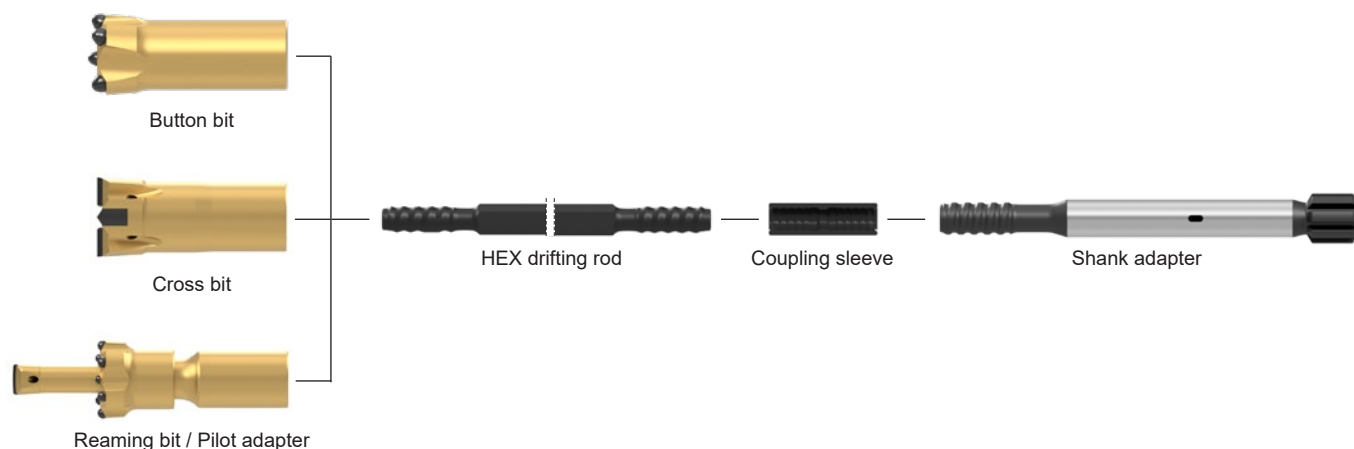
Coupling Sleeve



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CR25D	R25	R25	35	1 3/8"	160	6 1/4"	0.7
CR32D	R32	R32	45	1 3/4"	150	6"	1.0

DRIFTING&TUNNELING DRILLING EQUIPMENT

R28 SERIES (1 1/8") (Recommended Gauge diameter $\phi 37$ - $\phi 45$)



Various type of products are being released. Please feel free to contact us.



Button Bit Type 23



Part Number		Gauge Diameter		Gauge Angle (°)	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
28RTPWS37R23L	28RTPWS37BB23L	37	1 15/32"	30°	6× $\phi 8$	3× $\phi 7$	1	3	0.5
28RTPWS38R23L	28RTPWS38BB23L	38	1 1/2"	30°	6× $\phi 8$	3× $\phi 7$	1	3	0.5
28RTPWS41R23L	28RTPWS41BB23L	41	1 5/8"	30°	6× $\phi 8$	3× $\phi 8$	1	3	0.6
28RTPWS43R23L	28RTPWS43BB23L	43	1 11/16"	30°	6× $\phi 9$	3× $\phi 8$	1	3	0.7
28RTPWS45R23L	28RTPWS45BB23L	45	1 3/4"	30°	6× $\phi 9$	3× $\phi 8$	1	3	0.7



Button Bit Type 06



Part Number		Gauge Diameter		Gauge Angle (°)	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
28RTPWS37R06L	28RTPWS37BB06L	37	1 15/32"	30°	5×φ9	2×φ7	1	1	0.5
28RTPWS38R06L	28RTPWS38BB06L	38	1 1/2"	30°	5×φ9	2×φ8	1	1	0.5
28RTPWS41R06L	28RTPWS41BB06L	41	1 5/8"	30°	5×φ10	2×φ8	2	1	0.7
28RTPWS43R06L	28RTPWS43BB06L	43	1 11/16"	30°	5×φ10	2×φ8	2	1	0.7
28RTPWS45R06L	28RTPWS45BB06L	45	1 3/4"	30°	5×φ11	2×φ9	2	1	0.7



Button Bit Type 08



Part Number		Gauge Diameter		Gauge Angle (°)	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
28RTPVS41R08M	28RTPVS41BB08M	41	1 5/8"	35°	6×φ8	2×φ8	—	2	
28RTPVS43R08M	28RTPVS43BB08M	43	1 11/16"	35°	6×φ9	2×φ8	—	2	
28RTPVS45R08M	28RTPVS45BB08M	45	1 3/4"	35°	6×φ9	2×φ9	—	2	
28RTPVS48R08M	28RTPVS48BB08M	48	1 7/8"	35°	6×φ10	2×φ9	—	2	0.9



Cross Bit



Part Number	Gauge Diameter		Carbide size	Blow Hole		Weight(kg)
	(mm)	(in)	W×H(mm)	Side	Face	
28RTC38V	38	1 1/2"	10×19	4	1	0.5
28RTC41V	41	1 5/8"	10×19	4	1	0.6
28RTC43V	43	1 11/16"	10×19	4	1	0.7
28RTC45V	45	1 3/4"	10×19	4	1	0.7

DRIFTING&TUNNELING DRILLING EQUIPMENT

R28 SERIES (1 1/8") (Recommended Gauge diameter $\phi 37$ - $\phi 45$)



Reaming Bit 6° Taper



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WTHP64R11	64	2 1/2"	30°	6× $\phi 9$	3× $\phi 8$	—	—	1.0
WTHP76R11	76	3"	30°	6× $\phi 10$	6× $\phi 9$	—	—	1.3
WTHP89R15	89	3 1/2"	30°	8× $\phi 11$	8× $\phi 10$	—	—	1.7



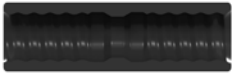
Pilot Adapter 6° Taper

Part Number	Gauge Diameter		Carbide size	Blow Hole		Weight(kg)
	(mm)	(in)	(mm)	Side	Front	
WR28THI26B	26	1"	8×12	1	1	1.1

HEX Rod



Part Number	Thread		Hex		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
EH28R32R28-2440	R28	R32	28	1 1/8"	2440	8'	12.3
EH28R32R28-2800			28	1 1/8"	2800	9' 2"	14.1
EH28R32R28-3100			28	1 1/8"	3100	10' 2"	15.8
EH28R32R28-3400			28	1 1/8"	3400	11' 1 5/8"	17.2
EH28R32R28-3700			28	2 1/8"	3700	12' 2"	19.2
EH28R32R28-4310			32	1 1/4"	4310	14' 2"	23.0



Coupling Sleeve

Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CR28D	R28	R28	41	1 5/8"	160	6 1/4"	1.0
CR32D	R32	R32	45	1 3/4"	150	6"	1.0

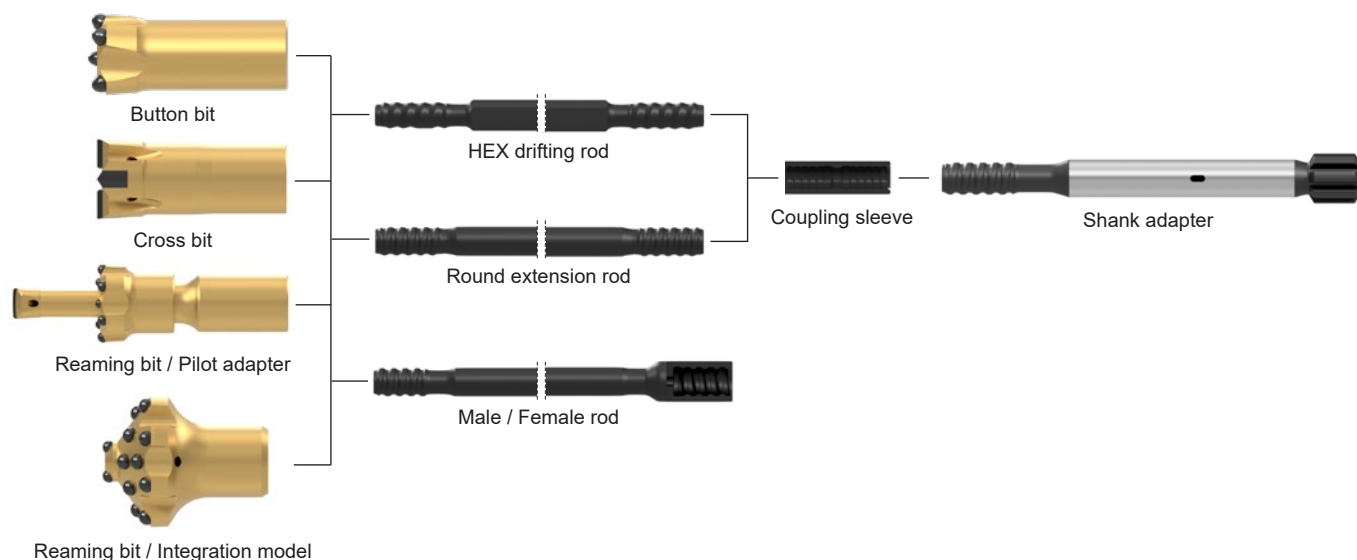


Crossover Coupling Sleeve

Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CR32R28	R28	R32	45	1 3/4"	171	6 3/4"	1.4

DRIFTING&TUNNELING DRILLING EQUIPMENT

R32 SERIES (1 1/4") (Recommended Gauge diameter $\phi 41\text{--}\phi 64$)



Various type of products are being released. Please feel free to contact us.



Button Bit Type TX



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
—	32RTPVS43BB23MTX	43	1 11/16"	35°	6× $\phi 9$	3× $\phi 8$	—	3	0.7
—	32RTPVS45BB23MTX	45	1 3/4"	35°	6× $\phi 10$	3× $\phi 8$	—	3	0.7
—	32RTPVS48BB23MTX	48	1 7/8"	35°	6× $\phi 10$	3× $\phi 9$	—	3	0.8
—	32RTPVS51BB23MTX	51	2"	35°	6× $\phi 10$	3× $\phi 10$	—	3	1.0
—	32RTPVS54BB23MTX	54	2 1/8"	35°	6× $\phi 11$	3× $\phi 10$	—	3	1.1
—	32RTPVS57BB23MTX	57	2 1/4"	35°	6× $\phi 11$	3× $\phi 11$	—	3	1.2



Button Bit Type 03



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
32RTPWS41R03L	32RTPWS41BB03L	41	1 5/8"	30°	6× $\phi 9$	3× $\phi 8$	1	3	0.6
32RTPWS43R03M	32RTPWS43BB03L	43	1 11/16"	35°	6× $\phi 9$	3× $\phi 8$	1	3	0.7
32RTPWS45R03L	32RTPWS45BB03L	45	1 3/4"	30°	6× $\phi 10$	3× $\phi 8$	1	3	0.8
32RTPWS48R03M	32RTPWS48BB03L	48	1 7/8"	35°	6× $\phi 10$	3× $\phi 9$	1	3	0.9
32RTPWS51R03L	32RTPWS51BB03L	51	2"	30°	6× $\phi 11$	3× $\phi 9$	1	3	1.0



Button Bit Type 23



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
32RTPWS43R23L	32RTPWS43BB23L	43	1 11/16"	30°	6×φ9	3×φ8	1	3	0.7
32RTPWS45R23L	32RTPWS45BB23L	45	1 3/4"	30°	6×φ9	3×φ8	1	3	0.8
32RTPWS48R23L	32RTPWS48BB23L	48	1 7/8"	30°	6×φ10	3×φ9	1	3	0.9
32RTPWS51R23L	32RTPWS51BB23L	51	2"	30°	6×φ10	3×φ9	1	3	1.0
32RTPWS54R23L	32RTPWS54BB23L	54	2 1/8"	30°	6×φ10	3×φ10	1	3	1.1
32RTPWS57R23L	32RTPWS57BB23L	57	2 1/4"	30°	6×φ11	3×φ10	1	3	1.2
32RTPWS64R23M	32RTPWS64BB23M	64	2 1/2"	35°	6×φ12	3×φ11	1	3	1.4



Button Bit Type 06



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
32RTPWS41R06L	32RTPWS41BB06L	41	1 5/8"	30°	5×φ10	2×φ8	2	1	0.6
32RTPWS43R06L	32RTPWS43BB06L	43	1 11/16"	30°	5×φ10	2×φ8	2	1	0.7
32RTPWS45R06L	32RTPWS45BB06L	45	1 3/4"	30°	5×φ11	2×φ9	2	1	0.8
32RTPWS48R06L	32RTPWS48BB06L	48	1 7/8"	30°	5×φ11	2×φ9	2	1	0.9
32RTPWS51R06L	32RTPWS51BB06L	51	2"	30°	5×φ12	2×φ10	2	1	1.0



Button Bit Type 08



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
32RTPVS41R08M	32RTPVS41BB08M	41	1 5/8"	35°	6×φ8	2×φ8	—	2	0.6
32RTPVS43R08M	32RTPVS43BB08M	43	1 11/16"	35°	6×φ9	2×φ8	—	2	0.7
32RTPVS45R08M	32RTPVS45BB08M	45	1 3/4"	35°	6×φ9	2×φ9	—	2	0.8
32RTPVS48R08M	32RTPVS48BB08M	48	1 7/8"	35°	6×φ10	2×φ9	—	2	0.9

DRIFTING&TUNNELING DRILLING EQUIPMENT

R32 SERIES (1 1/4") (Recommended Gauge diameter $\phi 41$ – $\phi 64$)



Cross Bit



Part Number	Gauge Diameter		Carbide size W×H(mm)	Blow Hole		Weight(kg)
	(mm)	(in)		Side	Face	
32RTC41V	41	1 5/8"	10×19	4	1	0.6
32RTC45V	45	1 3/4"	10×19	4	1	0.7
32RTC48V	48	1 7/8"	10×19	4	1	0.9
32RTC51V	51	2"	10×19	4	1	1.0



Reaming Bit 6° Taper



Part Number	Gauge Diameter		Gauge Angle (°)	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WTHP64R11	64	2 1/2"	30°	6× $\phi 9$	3× $\phi 8$	—	—	1.0
WTHP76R11	76	3"	30°	6× $\phi 10$	6× $\phi 9$	—	—	1.3
WTHP89R15	89	3 1/2"	30°	8× $\phi 11$	8× $\phi 10$	—	—	1.7



Pilot Adapter 6° Taper

Part number	Gauge Diameter		Carbide size (mm)	Blow Hole		Weight(kg)
	(mm)	(in)		(mm)	(ft/in)	
WR32THI26B	26	1"	8×12	1	1	1.4



Reaming Bit 12° Taper



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WTKP89R15	89	3 1/2"	30°	8×φ11	4×φ10	—	—	1.6
WTKP102R16	102	4"	35°	8×φ14	6×φ12	—	—	2.3
WTKP127R16	127	5"	35°	12×φ13	8×φ13	—	—	4.8



Pilot Adapter 12° Taper

Part Number	Gauge Diameter		Carbide size	Blow Hole		Weight(kg)
	(mm)	(in)	(mm)	Side	Face	
WR32TKI40B	40	1 5/8"	8×12	3	1	1.6



Reaming Bit Integration Model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow hole			Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	Reverse	
WI32RTPJ76R-30R	76	3"	35°	8×φ12	6×φ10	2	1	2	2.2
WI32RTPJ89R-30R	89	3 1/2"	35°	8×φ12	10×φ10	2	1	2	2.5
WI32RTPJ102R-30R	102	4"	35°	8×φ12	9×φ12, 2×φ10	2	1	2	2.7

DRIFTING&TUNNELING DRILLING EQUIPMENT

R32 SERIES (1 1/4")

HEX Rod



Part Number	Thread		Hex		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
EH32R38R32-3100	R32	R38	32	1 1/4"	3100	10' 2"	19.7
EH32R38R32-3700			32	1 1/4"	3700	12' 2"	23.3
EH32R38R32-4310			32	1 1/4"	4310	14' 2"	27.0
EH32R38R32-4920			32	1 1/4"	4920	16' 2"	30.9
EH35R38R32-3100			35	1 3/8"	3100	10' 2"	23.9
EH35R38R32-3700			35	1 3/8"	3700	12' 2"	28.5
EH35R38R32-4310			35	1 3/8"	4310	14' 2"	33.2
EH35R38R32-4920			35	1 3/8"	4920	16' 2"	36.7
EH35R38R32-5530			35	1 3/8"	5530	18' 2"	41.3
EH32M38R32-3100			32	1 1/4"	3100	10' 2"	19.7
EH32M38R32-3700			32	1 1/4"	3700	12' 2"	23.3
EH32M38R32-4310			32	1 1/4"	4310	14' 2"	27.0
EH32M38R32-4920			32	1 1/4"	4920	16' 2"	30.9
EH35M38R32-3100			35	1 3/8"	3100	10' 2"	23.9
EH35M38R32-3700			35	1 3/8"	3700	12' 2"	28.5
EH35M38R32-4310			35	1 3/8"	4310	14' 2"	33.2
EH35M38R32-4920			35	1 3/8"	4920	16' 2"	36.7
EH35M38R32-5530			35	1 3/8"	5530	18' 2"	41.3

Round Rod



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER32R32-1830	R32	R32	32	1 1/4"	1830	6'	8.0
ER32R32-2440			32	1 1/4"	2440	8'	11.5
ER32R32-3050			32	1 1/4"	3050	10'	16.2
ER32R32-3660			32	1 1/4"	3660	12'	19.5

Male/ Female Rod



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER32R32MF-1525	R32	R32	32	1 1/4"	1525	5'	8.9
ER32R32MF-1830			32	1 1/4"	1830	6'	9.4
ER32R32MF-2440			32	1 1/4"	2440	8'	12.9
ER32R32MF-3050			32	1 1/4"	3050	10'	17.4
ER32R32MF-3660			32	1 1/4"	3660	12'	20.6

Coupling Sleeve



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CR32D	R32	R32	45	1 3/4"	150	6"	1.0
CR38D	R38	R38	54	2 1/8"	170	6 3/4"	1.7

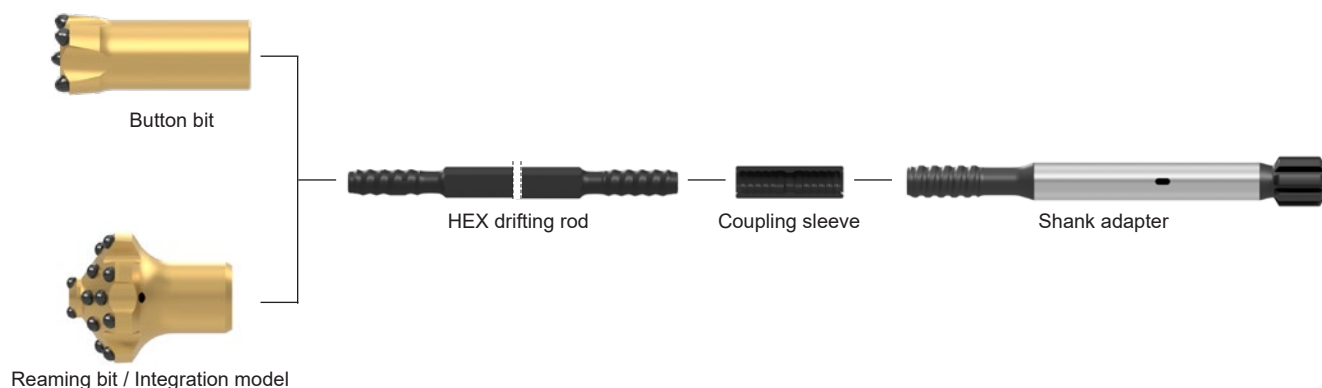
Crossover Coupling



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CR32R25	R32	R25	45	1 3/4"	175	6 7/8"	1.5
CR32R28		R28	45	1 3/4"	171	6 3/4"	1.4
CR38R32		R38	54	2 1/8"	181	7 1/8"	2.1
CM38R32		T38	54	2 1/8"	188	7 1/2"	2.2

DRIFTING&TUNNELING DRILLING EQUIPMENT

NR34 SERIES (1 3/1") (Recommended Gauge diameter $\phi 45$ - $\phi 54$)



Various type of products are being released. Please feel free to contact us.



Button Bit Type TX



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
—	34NRTPVS45BB23MTX	45	1 3/4"	35°	6× $\phi 10$	3× $\phi 8$	—	3	0.8
—	34NRTPVS48BB23MTX	48	1 7/8"	35°	6× $\phi 10$	3× $\phi 9$	—	3	0.8
—	34NRTPVS51BB23MTX	51	2"	35°	6× $\phi 10$	3× $\phi 10$	—	3	1.1
—	34NRTPVS54BB23MTX	54	2 1/8"	35°	6× $\phi 11$	3× $\phi 10$	—	3	1.2
—	34NRTPVS57BB23MTX	57	2 1/4"	35°	6× $\phi 11$	3× $\phi 11$	—	3	1.3



Button Bit Type 03



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
34NRTPWS45R03L	34NRTPWS45BB03L	45	1 3/4"	30°	6× $\phi 10$	3× $\phi 8$	1	3	0.8
34NRTPWS48R03M	34NRTPWS48BB03M	48	1 7/8"	35°	6× $\phi 10$	3× $\phi 9$	1	3	0.9



Button Bit Type 23



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
34NRTAWS45R23L	34NRTAWS45BB23L	45	1 3/4"	30°	6×φ9	3×φ8	1	3	0.8
34NRTAWS48R23L	34NRTAWS48BB23L	48	1 7/8"	30°	6×φ10	3×φ9	1	3	0.9
34NRTAWS51R23L	34NRTAWS51BB23L	51	2"	30°	6×φ10	3×φ9	1	3	1.0
34NRTAWS54R23L	34NRTAWS54BB23L	54	2 1/8"	30°	6×φ10	3×φ10	1	3	1.1



Reaming Bit Integration Model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow hole			Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	Reverse	
WI34NRTPJ76R-30R	76	3"	35°	8×φ12	6×φ10	2	1	2	2.3
WI34NRTPJ89R-30R	89	3 1/2"	35°	8×φ12	10×φ10	2	1	2	2.6
WI34NRTPJ102R-30R	102	4"	35°	8×φ12	9×φ12, 2×φ10	2	1	2	2.8

HEX Rod



Part Number	Thread		Hex		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
EH35M38NR34-3100	NR34	T38	35	1 3/8"	3100	10' 2"	24.8
EH35M38NR34-3700	NR34	T38	35	1 3/8"	3700	12' 2"	29.5
EH35M38NR34-4310	NR34	T38	35	1 3/8"	4310	14' 2"	34.1
EH35M38NR34-4920	NR34	T38	35	1 3/8"	4920	16' 2"	37.6
EH35M38NR34-5530	NR34	T38	35	1 3/8"	5530	18' 2"	42.3

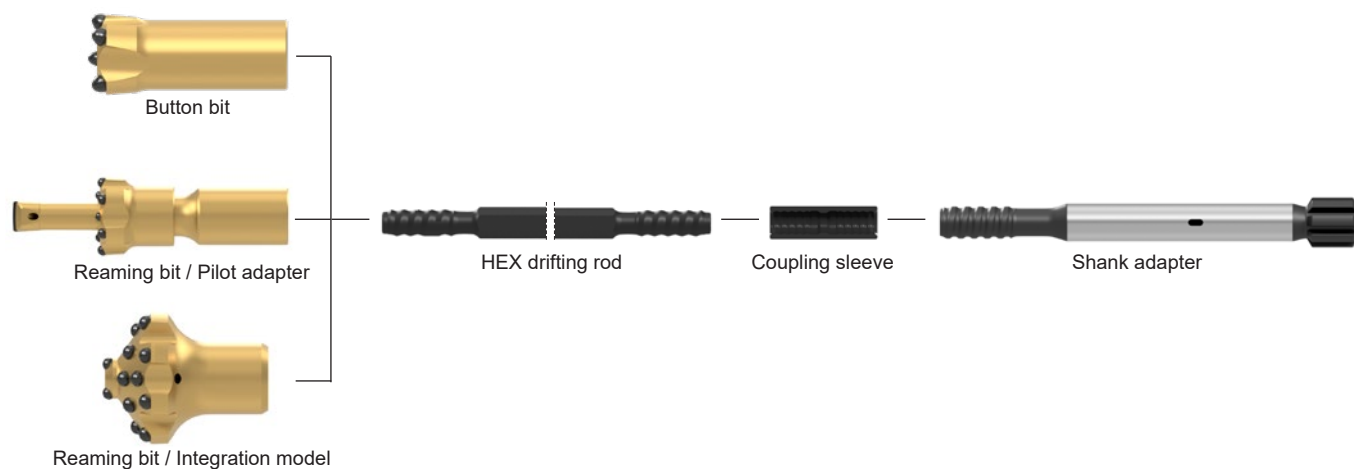
Coupling Sleeve



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM38Z2	T38	T38	55	2 1/6"	190	7 1/2"	2.0

DRIFTING&TUNNELING DRILLING EQUIPMENT

R35 SERIES (1 3/8") (Recommended Gauge diameter $\phi 48$ - $\phi 64$)



Various type of products are being released. Please feel free to contact us.



Button Bit Type TX



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
—	35RTPVS48BB23MTX	48	1 7/8"	35°	6× $\phi 10$	3× $\phi 9$	—	3	0.9
—	35RTPVS51BB23MTX	51	2"	35°	6× $\phi 10$	3× $\phi 10$	—	3	1.0
—	35RTPVS54BB23MTX	54	2 1/8"	35°	6× $\phi 11$	3× $\phi 10$	—	3	1.3
—	35RTPVS57BB23MTX	57	2 1/4"	35°	6× $\phi 11$	3× $\phi 11$	—	3	1.3



Button Bit Type 03



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
35RTPWS48R03M	35RTPWS48BB03M	48	1 7/8"	35°	6×φ10	3×φ9	1	3	0.8
35RTPWS51R03L	35RTPWS51BB03L	51	2"	30°	6×φ11	3×φ9	1	3	1.0



Button Bit Type 23



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
35RTPWS48R23L	35RTPWS48BB23L	48	1 7/8"	30°	6×φ10	3×φ9	1	3	0.8
35RTPWS51R23L	35RTPWS51BB23L	51	2"	30°	6×φ10	3×φ9	1	3	0.9
35RTPWS54R23L	35RTPWS54BB23L	54	2 1/8"	30°	6×φ10	3×φ10	1	3	1.0
35RTPWS57R23L	35RTPWS57BB23L	57	2 1/4"	30°	6×φ11	3×φ10	1	3	1.1
35RTPWS64R23M	35RTPWS64BB23M	64	2 1/2"	30°	6×φ12	3×φ11	1	3	1.3



Button Bit Type 06



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
35RTPWS48R06L	35RTPWS48BB06L	48	1 7/8"	30°	5×φ11	2×φ9	2	1	0.8
35RTPWS51R06L	35RTPWS51BB06L	51	2"	30°	5×φ12	2×φ10	2	1	0.9



Button Bit Type 08



Part Number		Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
35RTPVS48R08M	35RTPVS48BB08M	48	1 7/8"	35°	6×φ10	2×φ9	—	2	0.8

DRIFTING&TUNNELING DRILLING EQUIPMENT

R35 SERIES (1 3/8") (Recommended Gauge diameter $\phi 48$ - $\phi 64$)



Reaming Bit 12° Taper



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WTKP89R15	89	3 1/2"	30°	8× $\phi 11$	4× $\phi 10$	—	—	1.6
WTKP102R16	102	4"	35°	8× $\phi 14$	6× $\phi 12$	—	—	2.3
WTKP127R16	127	5"	35°	12× $\phi 13$	8× $\phi 13$	—	—	4.8



Pilot Adapter 12° Taper

Part Number	Gauge Diameter		Carbide size	Blow Hole		Weight(kg)
	(mm)	(in)	W×H(mm)	Side	Face	
WR35TKI40B	40	1 9/16"	8×12	3	1	1.5



Reaming Bit Integration Model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow hole			Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	Reverse	
WI35RTPJ76R-30R	76	3"	35°	8× $\phi 12$	6× $\phi 10$	2	1	2	2.3
WI35RTPJ89R-30R	89	3 1/2"	35°	8× $\phi 12$	10× $\phi 10$	2	1	2	2.7
WI35RTPJ102R-30R	102	4"	35°	8× $\phi 12$	9× $\phi 12$, 2× $\phi 10$	2	1	2	2.9

HEX Rod



Part Number	Thread		Hex		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
EH35M38R35-3700	R35	T38	35	1 3/8"	3700	12'2"	28.6
EH35M38R35-4310			35	1 3/8"	4310	14' 2"	33.3
EH35M38R35-4920			35	1 3/8"	4920	16' 2"	36.8
EH35M38R35-5530			35	1 3/8"	5530	18' 2"	41.4

Coupling Sleeve



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM38Z2	T38	T38	55	2 1/6"	190	7 1/2"	2.0
CR35D	R35	R35	48	1 7/8"	160	6 1/4"	1.2

Crossover Coupling Sleeve



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CR35R32	R35	R32	48	1 7/8"	171	6 3/4"	1.5

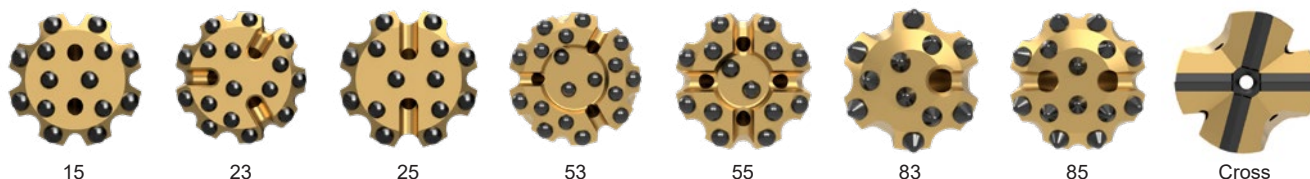
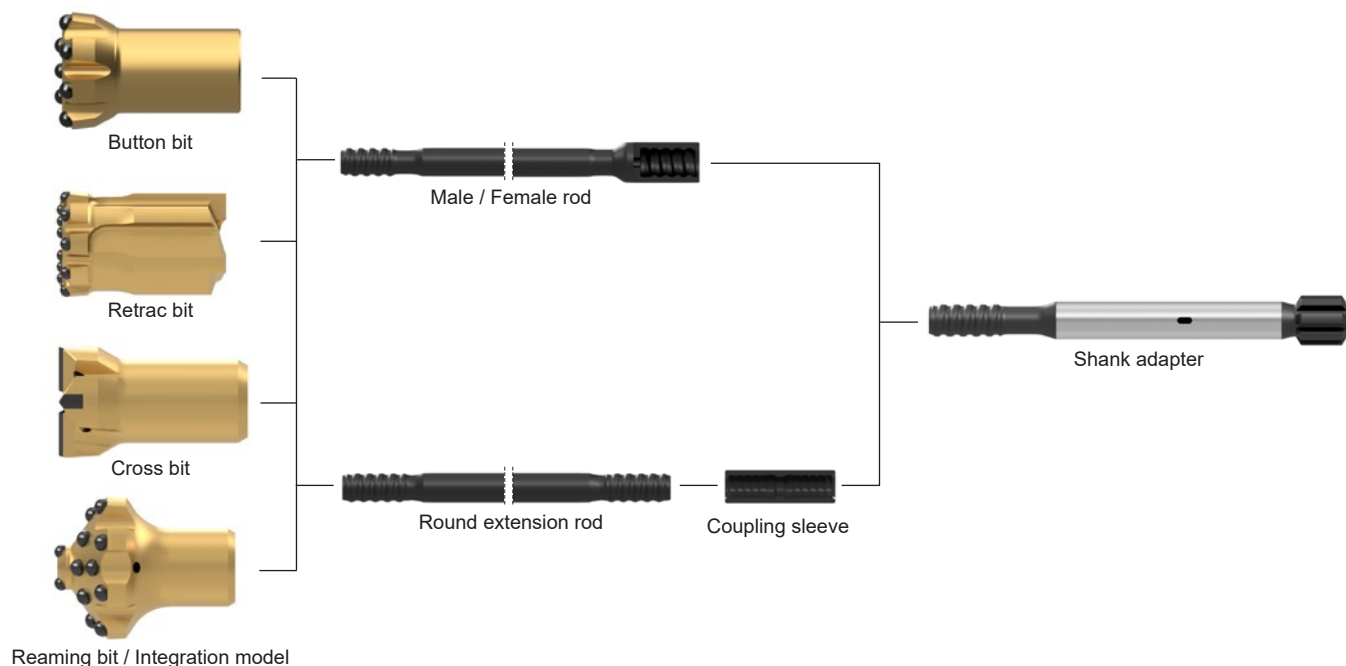


BENCH & LONGHOLE DRILLING EQUIPMENT



BENCH & LONG HOLE DRILLING EQUIPMENT

T38 SERIES (1 1/2") (Recommended Gauge diameter Ø64–Ø102)



Button Bit with Flat face Type 15



Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
38MPVS64R15M	38MPVS64BB15M		64	2 1/2"	35°	8×Ø11	4×Ø10	—	2	1.6
38MPVS70R15M	38MPVS70BB15M		70	2 3/4"	35°	8×Ø11	4×Ø11	—	2	1.9
38MPVS76R15M	38MPVS76BB15M		76	3"	35°	8×Ø12	4×Ø11	—	2	2.2
38MPVS89R15M	38MPVS89BB15M		89	3 1/2"	35°	8×Ø13	6×Ø12	—	2	3.4
38MPVS102R15M	—		102	4"	35°	8×Ø14	6×Ø13	—	2	4.5
38MPVR64R15M	38MPVR64BB15M		64	2 1/2"	35°	8×Ø11	4×Ø10	—	2	2.1
38MPVR70R15M	38MPVR70BB15M		70	2 3/4"	35°	8×Ø11	4×Ø11	—	2	2.5
38MPVR76R15M	38MPVR76BB15M		76	3"	35°	8×Ø12	4×Ø11	—	2	3.0
38MPVR89R15M	38MPVR89BB15M		89	3 1/2"	35°	8×Ø13	6×Ø12	—	2	4.6
38MPVR102R15M	—		102	4"	35°	8×Ø14	6×Ø13	—	2	6.8



Button Bit with Groove Type 23 and 25



Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
38MPVS64R23M	38MPVS64BB23M		64	2 1/2"	35°	6×φ12	3×φ11	—	3	1.7
38MPVS70R23M	38MPVS70BB23M		70	2 3/4"	35°	6×φ12	4×φ11	—	3	1.9
38MPVS76R23M	38MPVS76BB23M		76	3"	35°	6×φ12	4×φ12	—	3	2.3
38MPVS89R23M	38MPVS89BB23M		89	3 1/2"	35°	9×φ12	6×φ12	—	3	3.4
38MPVS102R23M	38MPVS102BB23M		102	4"	35°	9×φ13	7×φ13	—	3	4.5
38MPVR64R23M	38MPVR64BB23M		64	2 1/2"	35°	6×φ12	3×φ11	—	3	2.0
38MPVR70R23M	38MPVR70BB23M		70	2 3/4"	35°	6×φ12	4×φ11	—	3	2.5
38MPVR76R23M	38MPVR76BB23M		76	3"	35°	6×φ12	4×φ12	—	3	3.0
38MPVR89R23M	38MPVR89BB23M		89	3 1/2"	35°	9×φ12	6×φ12	—	3	4.4
38MPVR102R23M	38MPVR102BB23M		102	4"	35°	9×φ13	7×φ13	—	3	6.8

Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
38MPVS89R25M	38MPVS89BB25M		89	3 1/2"	35°	8×φ13	6×φ12	—	2	3.3
38MPVS102R25M	38MPVS102BB25M		102	4"	35°	8×φ14	6×φ13	—	2	4.4
38MPVR89R25M	38MPVR89BB25M		89	3 1/2"	35°	8×φ13	6×φ12	—	2	4.7
38MPVR102R25M	38MPVR102BB25M		102	4"	35°	8×φ14	6×φ13	—	2	6.8



Button Bit with Drop Center Type 53 and 55

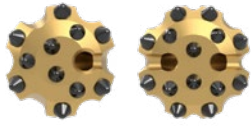


Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
38MPVS64R53M	38MPVS64BB53M		64	2 1/2"	35°	6×φ10	4×φ10	—	3	1.6
38MPVS70R53M	38MPVS70BB53M		70	2 3/4"	35°	6×φ11	4×φ11	—	3	1.8
38MPVS76R53M	38MPVS76BB53M		76	3"	35°	6×φ12	4×φ11	—	3	2.1
38MPVS89R53M	—		89	3 1/2"	35°	6×φ13	5×φ12	—	3	3.3
38MPVR64R53M	38MPVR64BB53M		64	2 1/2"	35°	6×φ10	4×φ10	—	3	2.0
38MPVR70R53M	38MPVR70BB53M		70	2 3/4"	35°	6×φ11	4×φ11	—	3	2.5
38MPVR76R53M	38MPVR76BB53M		76	3"	35°	6×φ12	4×φ11	—	3	2.8
38MPVR89R53M	—		89	3 1/2"	35°	6×φ13	5×φ12	—	3	4.2

Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
38MPVS64R55M	38MPVS64BB55M		64	2 1/2"	35°	8×φ10	5×φ9	—	4	1.6
38MPVS70R55M	38MPVS70BB55M		70	2 3/4"	35°	8×φ11	5×φ10	—	4	1.8
38MPVS76R55M	38MPVS76BB55M		76	3"	35°	8×φ11	5×φ11	—	4	2.2
38MPVS89R55M	38MPVS89BB55M		89	3 1/2"	35°	8×φ12	6×φ12	—	4	3.4
38MPVS102R55M	—		102	4"	35°	8×φ14	6×φ14	—	4	4.4
38MPVR64R55M	38MPVR64BB55M		64	2 1/2"	35°	8×φ10	5×φ9	—	4	2.1
38MPVR70R55M	38MPVR70BB55M		70	2 3/4"	35°	8×φ11	5×φ10	—	4	2.5
38MPVR76R55M	38MPVR76BB55M		76	3"	35°	8×φ11	5×φ11	—	4	3.0
38MPVR89R55M	38MPVR89BB55M		89	3 1/2"	35°	8×φ12	6×φ12	—	4	4.5
38MPVR102R55M	—		102	4"	35°	8×φ14	6×φ14	—	4	6.4

BENCH & LONG HOLE DRILLING EQUIPMENT

T38 SERIES (1 1/2") (Recommended Gauge diameter Ø64–Ø102)



Button Bit with Convex Type 83 and 85



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
38MPWS64SA83H		64	2 1/2"	20–40	6×Ø10	3×Ø10, 2×Ø9	1	1	1.5
38MPWS70SA83H		70	2 3/4"	20–40	6×Ø11	5×Ø10	1	1	1.8
38MPWS76SA83H		76	3"	20–40	6×Ø11	3×Ø11, 2×Ø10	1	1	2.3
38MPWS76SA85H		76	3"	20–40	8×Ø11	6×Ø10	2	2	2.1
38MPWS89SA85H		89	3 1/2"	20–40	8×Ø12	6×Ø12	2	2	3.2
38MPVS102SA85H		102	4"	20–40	8×Ø12	7×Ø12	—	2	4.2



Cross Bit



Part Number	Gauge Diameter		Carbide size W×H(mm)	Blow Hole		Weight(kg)
	(mm)	(in)		Side	Face	
38MX64S	64	2 1/2"	13×22	4	1	1.8
38MX76S2	76	3"	13×22	4	1	2.4
38MX89S	89	3 1/2"	13×22	4	1	3.7



Reaming Bit Integration model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
	(mm)	(in)				Side	Face	
WI38MP127R-60	127	5"	30°	9×Ø13	6×Ø13	—	3	6.3
WI38MP152R-60	152	6"	30°	9×Ø14	9×Ø14	—	3	9.8
WI38MP152R-110Z2	152	6"	30°	9×Ø14	3×Ø14	—	3	14.6

Round Rod



Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER38M38-3050	T38	T38	38	1 1/2"	3050	10'	24.7
ER38M38-3660					3660	12'	29.4
ER38M38-4270					4270	14'	34.7
ER38M38-4880					4880	16'	40.0
ER38M38-5490					5490	18'	44.6

Male / Female Rod



Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER38M38MF-1220	T38	T38	38	1 1/2"	1220	4'	9.7
ER38M38MF-1525					1525	5'	13.3
ER38M38MF-1830					1830	6'	16.0
ER38M38MF-3050H					3050	10'	25.3
ER38M38MF-3660H					3660	12'	30.1
ER38M38MF-4270H					4270	14'	35.0

Coupling / Cross Over Coupling

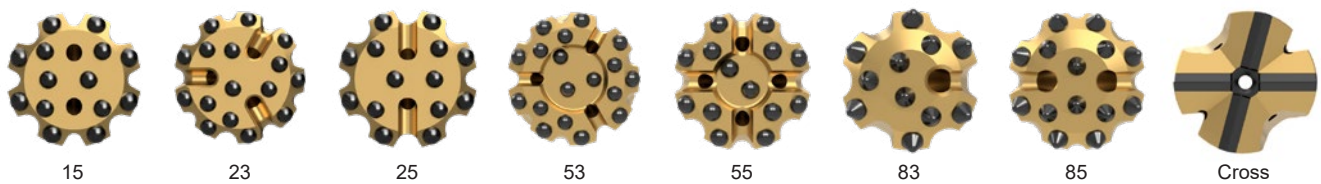
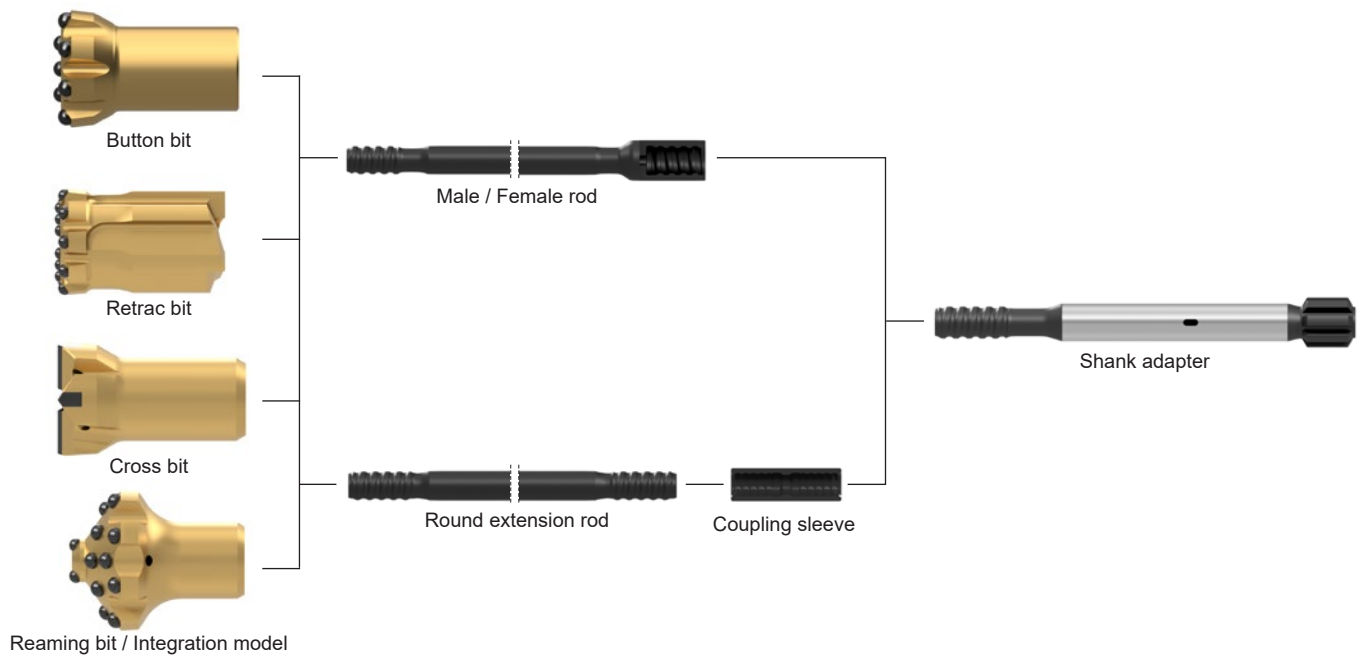


Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM38Z2	T38		55	2 1/6"	190	7 1/2"	2.0

Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM38R32	T38	R32	54	2 1/8"	188	7 1/2"	2.2
CM38R38		R38	54	2 1/8"	195	7 11/16"	2.0
CM45M38		T45	63	2 1/2"	215	8 1/2"	3.4

BENCH & LONG HOLE DRILLING EQUIPMENT

T45 SERIES (1 3/4") (Recommended Gauge diameter $\phi 70$ – $\phi 115$)



Button Bit Flat face Type 15



Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
45MPVS70R15M	45MPVS70BB15M		70	2 3/4"	35	8× $\phi 11$	4× $\phi 11$	—	2	1.9
45MPVS76R15M	45MPVS76BB15M		76	3"	35	8× $\phi 12$	4× $\phi 11$	—	2	2.3
45MPVS83R15M	45MPVS83BB15M		83	3 2/7"	35	8× $\phi 12$	6× $\phi 11$	—	2	2.6
45MPVS89R15M	45MPVS89BB15M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	3.8
45MPVS102R15M	—		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	4.4
45MPVS115R15M	—		115	4 1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	6.4
45MPVR70R15M	45MPVR70BB15M		70	2 3/4"	35	8× $\phi 11$	4× $\phi 11$	—	2	2.7
45MPVR76R15M	45MPVR76BB15M		76	3"	35	8× $\phi 12$	4× $\phi 11$	—	2	3.0
45MPVR83R15M	45MPVR83BB15M		83	3 2/7"	35	8× $\phi 12$	6× $\phi 11$	—	2	3.9
45MPVR89R15M	45MPVR89BB15M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	4.5
45MPVR102R15M	—		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	6.6
45MPVR115R15M	—		115	4 1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	8.7



Button Bit with Groove Type 23 and 25



Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
45MPVS70R23M	45MPVS70BB23M		70	2 3/4"	35	6×φ12	4×φ11	—	3	2.0
45MPVS76R23M	45MPVS76BB23M		76	3"	35	6×φ12	4×φ12	—	3	2.4
45MPVS83R23M	45MPVS83BB23M		83	3 2/7"	35	6×φ13	4×φ13	—	3	2.8
45MPVS89R23M	45MPVS89BB23M		89	3 1/2"	35	9×φ12	6×φ12	—	3	3.8
45MPVS102R23M	45MPVS102BB23M		102	4"	35	9×φ13	7×φ13	—	3	4.3
45MPVS115R23M	45MPVS115BB23M		115	4 1/2"	35	9×φ14	7×φ14	—	3	5.8
45MPVR70R23M	45MPVR70BB23M		70	2 3/4"	35	6×φ12	4×φ11	—	3	2.5
45MPVR76R23M	45MPVR76BB23M		76	3"	35	6×φ12	4×φ12	—	3	2.7
45MPVR83R23M	45MPVR83BB23M		83	3 2/7"	35	6×φ13	4×φ13	—	3	4.1
45MPVR89R23M	45MPVR89BB23M		89	3 1/2"	35	9×φ12	6×φ12	—	3	4.4
45MPVR102R23M	45MPVR102BB23M		102	4"	35	9×φ13	7×φ13	—	3	6.5
45MPVR115R23M	45MPVR115BB23M		115	4 1/2"	35	9×φ14	7×φ14	—	3	8.5

Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
45MPVS89R25M	45MPVS89BB25M		89	3 1/2"	35	8×φ13	6×φ12	—	2	3.8
45MPVS102R25M	45MPVS102BB25M		102	4"	35	8×φ14	6×φ13	—	2	4.4
45MPVR89R25M	45MPVR89BB25M		89	3 1/2"	35	8×φ13	6×φ12	—	2	4.5
45MPVR102R25M	45MPVR102BB25M		102	4"	35	8×φ14	6×φ13	—	2	6.8



Button Bit with Drop Center Type 53 and 55

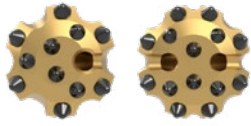


Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
45MPVS70R53M	45MPVS70BB53M		70	2 3/4"	35	6×φ11	4×φ11	—	3	1.8
45MPVS76R53M	45MPVS76BB53M		76	3"	35	6×φ12	4×φ11	—	3	2.2
45MPVS83R53M	—		83	3 2/7"	35	6×φ13	4×φ12	—	3	2.6
45MPVS89R53M	—		89	3 1/2"	35	6×φ13	5×φ12	—	3	3.6
45MPVR70R53M	45MPVR70BB53M		70	2 3/4"	35	6×φ11	4×φ11	—	3	2.6
45MPVR76R53M	45MPVR76BB53M		76	3"	35	6×φ12	4×φ11	—	3	2.7
45MPVR83R53M	—		83	3 2/7"	35	6×φ13	4×φ12	—	3	3.7
45MPVR89R53M	—		89	3 1/2"	35	6×φ13	5×φ12	—	3	4.2

Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
45MPVS70R55M	45MPVS70BB55M		70	2 3/4"	35	8×φ11	5×φ10	—	4	1.8
45MPVS76R55M	45MPVS76BB55M		76	3"	35	8×φ11	5×φ11	—	4	2.2
45MPVS83R55M	45MPVS83BB55M		83	3 2/7"	35	8×φ12	4×φ12, 1×φ11	—	4	3.9
45MPVS89R55M	45MPVS89BB55M		89	3 1/2"	35	8×φ12	6×φ12	—	4	3.7
45MPVS102R55M	—		102	4"	35	8×φ14	6×φ14	—	4	4.4
45MPVS115R55M	—		115	4 1/2"	35	8×φ14	8×φ14	—	4	6.7
45MPVR70R55M	45MPVR70BB55M		70	2 3/4"	35	8×φ11	5×φ10	—	4	2.5
45MPVR76R55M	45MPVR76BB55M		76	3"	35	8×φ11	5×φ11	—	4	3.0
45MPVR83R55M	45MPVR83BB55M		83	3 2/7"	35	8×φ12	4×φ12, 1×φ11	—	4	3.8
45MPVR89R55M	45MPVR89BB55M		89	3 1/2"	35	8×φ12	6×φ12	—	4	4.5
45MPVR102R55M	—		102	4"	35	8×φ14	6×φ14	—	4	6.5
45MPVR115R55M	—		115	4 1/2"	35	8×φ14	8×φ14	—	4	8.4

BENCH & LONG HOLE DRILLING EQUIPMENT

T45 SERIES (1 3/4") (Recommended Gauge diameter $\phi 70$ – $\phi 115$)



Button Bit with Convex Type 83 and 85



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
45MPWS70SA83H		70	2 3/4"	20–40	6× $\phi 11$	5× $\phi 10$	1	1	1.7
45MPWS76SA83H		76	3"	20–40	6× $\phi 11$	3× $\phi 11$, 2× $\phi 10$	1	1	2.2
45MPWS76SA85H		76	3"	20–40	8× $\phi 11$	6× $\phi 10$	2	2	2.3
45MPWR76SA85H		76	3"	20–40	8× $\phi 11$	6× $\phi 10$	2	2	3.1
45MPWS89SA85H		89	3 1/2"	20–40	8× $\phi 12$	6× $\phi 12$	2	2	3.8
45MPWR89SA85H		89	3 1/2"	20–40	8× $\phi 12$	6× $\phi 12$	2	2	4.1
45MPVS102SA85H		102	4"	20–40	8× $\phi 12$	7× $\phi 12$	–	2	4.3
45MPVS115SA85H		115	4 1/2"	20–40	8× $\phi 14$	8× $\phi 12$	–	2	6.3



Cross Bit



Part Number	Gauge Diameter		Carbide size	Blow Hole		Weight(kg)
	(mm)	(in)	W×H(mm)	Side	Face	
45MX76S	76	3"	13×22	4	1	2.5
45MX90S	90	3 1/2"	13×22	4	1	4.0



Reaming Bit Integration model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WI45MP127BB-70	127	5"	30°	9× $\phi 13$	6× $\phi 13$	–	3	8.0
WI45MP152BB-65Z	152	6"	30°	9× $\phi 14$	9× $\phi 14$	–	3	10.5

Round Rod



Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER45M45-3050	T45	T45	45	1 3/4"	3050	10'	35.0
ER45M45-3660					3660	12'	41.7
ER45M45-4270					4270	14'	48.5
ER45M45-4880					4880	16'	54.9

Male / Female Rod



Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER45M45MF-1220	T45	T45	45	1 3/4"	1220	4'	14.7
ER45M45MF-1525					1525	5'	18.1
ER45M45MF-1830					1830	6'	21.5
ER45M45MF-3050H					3050	10'	35.0
ER45M45MF-3660H					3660	12'	41.7
ER45M45MF-4270H					4270	14'	48.5
ER45M45MF-6100H					6100	20'	70.8



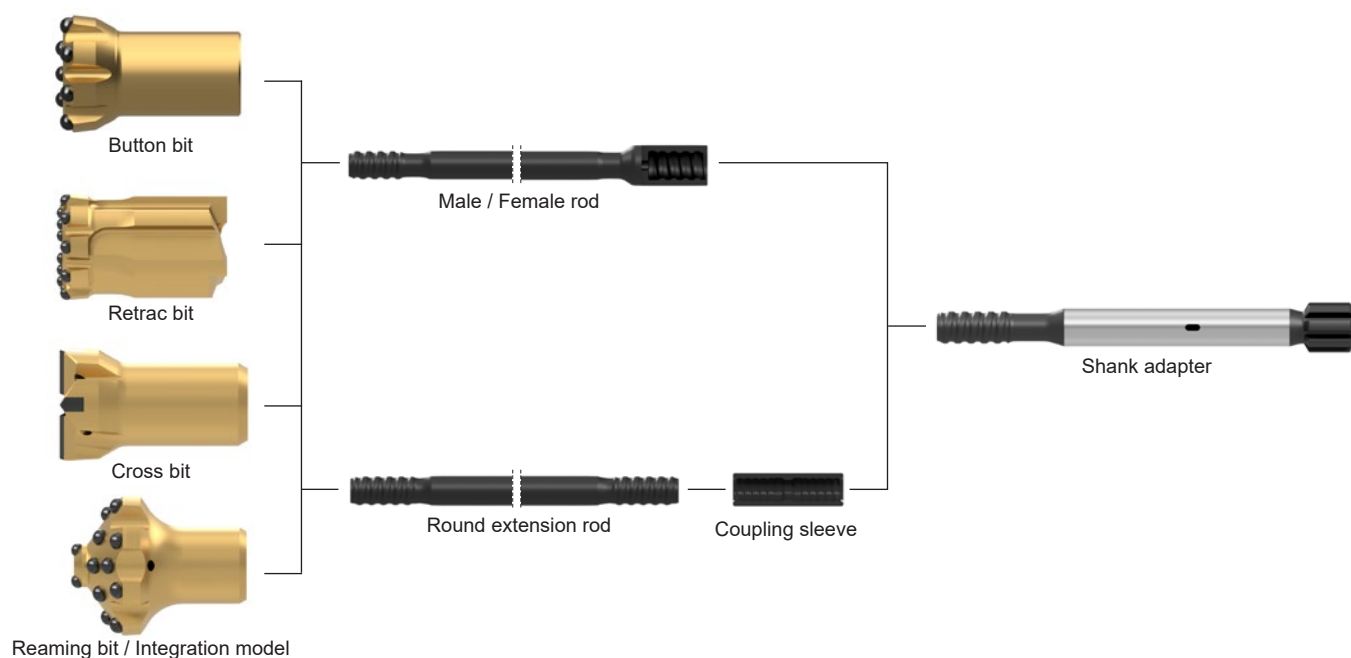
Coupling / Cross Over Coupling

Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM45	T45	T45	63	2 1/2"	210	8 1/4"	3.0
CM45-2			66	2 5/8"	210	8 1/4"	3.5
CM45F			63	2 1/2"	230	9 1/16"	3.2

Part number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM45R32	T45	T32	63	2 1/2"	198	7" 13/16"	2.1
CM45M38		T38	63	2 1/2"	215	8 1/2"	3.4

BENCH & LONG HOLE DRILLING EQUIPMENT

T51 SERIES (2") (Recommended Gauge diameter $\phi 89$ – $\phi 127$)



Button Bit Flat face Type 15



Round	Semi Ballistic	Skirt	Gauge Diameter		Gauge Angle (°)	Gauge Button	Face Button	Blow Hole		Weight(kg)
			(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
51MPVS89R15M	51MPVS89BB15M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	4.1
51MPVS102R15M	—		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	5.2
51MPVS115R15M	—		115	4 1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	6.9
51MPVS127R15M	—		127	5"	35	8× $\phi 16$	8× $\phi 14$	—	2	9.0
51MPVR89R15M	51MPVR89BB15M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	4.3
51MPVR102R15M	—		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	6.6
51MPVR115R15M	—		115	4 1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	8.8
51MPVR127R15M	—		127	5"	35	8× $\phi 16$	8× $\phi 14$	—	2	11.3



Button Bit with Groove Type 23 and 25



Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
51MPVS89R23M	51MPVS89BB23M		89	3 1/2"	35	9×φ12	6×φ12	—	3	4.1
51MPVS102R23M	51MPVS102BB23M		102	4"	35	9×φ13	7×φ13	—	3	5.2
51MPVS115R23M	51MPVS115BB23M		115	4"1/2"	35	9×φ14	7×φ14	—	3	6.8
51MPVS127R23M	—		127	5"	35	9×φ16	7×φ16	—	3	8.9
51MPVR89R23M	51MPVR89BB23M		89	3 1/2"	35	9×φ12	6×φ12	—	3	4.6
51MPVR102R23M	51MPVR102BB23M		102	4"	35	9×φ13	7×φ13	—	3	6.5
51MPVR115R23M	51MPVR115BB23M		115	4"1/2"	35	9×φ14	7×φ14	—	3	8.5
51MPVR127R23M	—		127	5"	35	9×φ16	7×φ16	—	3	10.9

Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
51MPVS89R25M	51MPVS89BB25M		89	3 1/2"	35	8×φ13	6×φ12	—	2	4.5
51MPVS102R25M	—		102	4"	35	8×φ14	6×φ13	—	2	5.4
51MPVS127R25M	—		127	5"	35	8×φ16	8×φ14	—	2	8.9
51MPVR89R25M	51MPVR89BB25M		89	3 1/2"	35	8×φ13	6×φ12	—	2	4.4
51MPVR102R25M	—		102	4"	35	8×φ14	6×φ13	—	2	6.5
51MPVR127R25M	—		127	5"	35	8×φ16	8×φ14	—	2	11.3



Button Bit with Drop Center Type 53 and 55



Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
51MPVS89R53M	—		89	3 1/2"	35	6×φ13	5×φ12	—	3	4.0
51MPVR89R53M	—		89	3 1/2"	35	6×φ13	5×φ12	—	3	4.4

Part Number		Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
Round	Semi Ballistic		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
51MPVS89R55M	51MPVS89BB55M		89	3 1/2"	35	8×φ12	6×φ12	—	4	4.0
51MPVS102R55M	—		102	4"	35	8×φ14	6×φ14	—	4	5.1
51MPVS115R55M	—		115	4"1/2"	35	8×φ14	8×φ14	—	4	6.6
51MPVS127R55M	—		127	5"	35	8×φ16	4×φ16, 4×φ14	—	4	8.6
51MPVR89R55M	51MPVR89BB55M		89	3 1/2"	35	8×φ12	6×φ12	—	4	4.3
51MPVR102R55M	—		102	4"	35	8×φ14	6×φ14	—	4	6.4
51MPVR115R55M	—		115	4"1/2"	35	8×φ14	8×φ14	—	4	8.4
51MPVR127R55M	—		127	5"	35	8×φ16	4×φ16, 4×φ14	—	4	11.0

BENCH & LONG HOLE DRILLING EQUIPMENT

T51 SERIES (2'') (Recommended Gauge diameter $\phi 89$ – $\phi 127$)



Button Bit with Convex Type 85



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
51MPWS89SA85H		89	3 1/2"	20–40	8× $\phi 12$	6× $\phi 12$	2	2	4.3
51MPVS102SA85H		102	4"	20–40	8× $\phi 12$	7× $\phi 12$	–	2	5.2
51MPVS115SA85H		115	4 1/2"	20–40	8× $\phi 14$	8× $\phi 12$	–	2	6.8



Cross Bit



Part Number	Gauge Diameter		Carbide size	Blow hole		Weight(kg)
	(mm)	(in)	W×H(mm)	Side	Face	
51MX102S	102	4"	13×22	4	1	4.8



Reaming Bit Integration model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow hole			Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	Reverse	
WI51MPJ152R-D	152	6"	35°	9× $\phi 14$	11× $\phi 14$	–	3	1	10.6

Round Rod



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER51M51-3660	T51	T51	51	2"	3660	12'	49.6
ER51M51-4880					4880	16'	67.1
ER51M51-6100					6100	20'	82.9

Male / Female Rod



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER51M51MF-1525	T51	T51	51	2"	1525	5'	22.0
ER51M51MF-1830					1830	6'	26.4
ER51M51MF-3660F					3660	12'	52.8
ER51M51MF-3660H					3660	12'	52.8
ER51M51MF-4270F					4270	14'	61.6
ER51M51MF-4270H					4270	14'	61.6
ER51M51MF-6100H					6100	20'	82.9



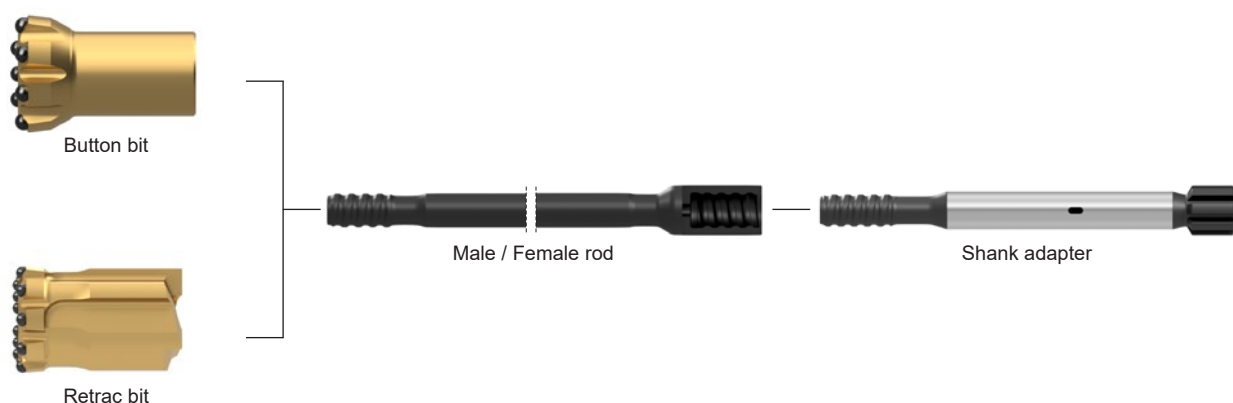
Coupling / Cross Over Coupling

Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM51	T51	T51	72	2 7/8"	235	9 1/4"	4.4
CM51-2			77	3"	235	9 1/4"	5.5
CM51F			72	2 7/8"	250	9 27/32"	5.5

Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
CM51M45	T51	T45	72	2 7/8"	240	9 1/2"	5.0

BENCH & LONG HOLE DRILLING EQUIPMENT

GT60 SERIES (2 1/4") (Recommended Gauge diameter $\phi 92$ – $\phi 152$)



Various type of products are being released. Please feel free to contact us.



Button Bit with Groove Type 23



Part Number	Skirt	Gauge Diameter		Gauge Angle (°)	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
60GMPVS102R23M		102	4"	35	9× $\phi 13$	7× $\phi 13$	—	3	6.8
60GMPVS115R23M		115	4"1/2"	35	9× $\phi 14$	7× $\phi 14$	—	3	8.6
60GMPVS127R23M		127	5"	35	9× $\phi 16$	7× $\phi 16$	—	3	9.4
60GMPVS140R23M		140	5 1/2"	35	9× $\phi 16$	8× $\phi 16$	—	3	12.3
60GMPVS152R23M		152	6"	35	9× $\phi 16$	12× $\phi 14$	—	3	15.5
60GMPVR102R23M		102	4"	35	9× $\phi 13$	7× $\phi 13$	—	3	8.1
60GMPVR115R23M		115	4"1/2"	35	9× $\phi 14$	7× $\phi 14$	—	3	9.2
60GMPVR127R23M		127	5"	35	9× $\phi 16$	7× $\phi 16$	—	3	14.4
60GMPVR140R23M		140	5 1/2"	35	9× $\phi 16$	8× $\phi 16$	—	3	15.5
60GMPVR152R23M		152	6"	35	9× $\phi 16$	12× $\phi 14$	—	3	18.9



Button Bit Type with Drop Center 53, 55 and 5X



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
60GMPVS140R53M		140	5 1/2"	35	9×φ16	9×φ16	—	3	11.9
60GMPVR140R53M		140	5 1/2"	35	9×φ16	9×φ16	—	3	15.2

Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
60GMPVS92R55M		92	3 5/8"	35	8×φ12	6×φ12	—	4	5.6
60GMPVS102R55M		102	4"	35	8×φ14	6×φ14	—	4	7.6
60GMPVS115R55M		115	4 1/2"	35	8×φ14	8×φ14	—	4	8.4
60GMPVS127R55M		127	5"	35	8×φ16	4×φ16, 4×φ14	—	4	9.5
60GMPVS140R55M		140	5 1/2"	35	8×φ16	8×φ16	—	4	11.9
60GMPVR92R55M		92	3 5/8"	35	8×φ12	6×φ12	—	4	6.2
60GMPVR102R55M		102	4"	35	8×φ14	6×φ14	—	4	7.6
60GMPVR115R55M		115	4 1/2"	35	8×φ14	8×φ14	—	4	9.6
60GMPVR127R55M		127	5"	35	8×φ16	4×φ16, 4×φ14	—	4	13.5
60GMPVR140R55M		140	5 1/2"	35	8×φ16	8×φ16	—	4	15.2

Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
60GMPVS152R5XM		152	6"	35	10×φ16	3×φ14, 6×φ16	—	4	15.4
60GMPVR152R5XM		152	6"	35	10×φ16	3×φ14, 6×φ16	—	4	18.8

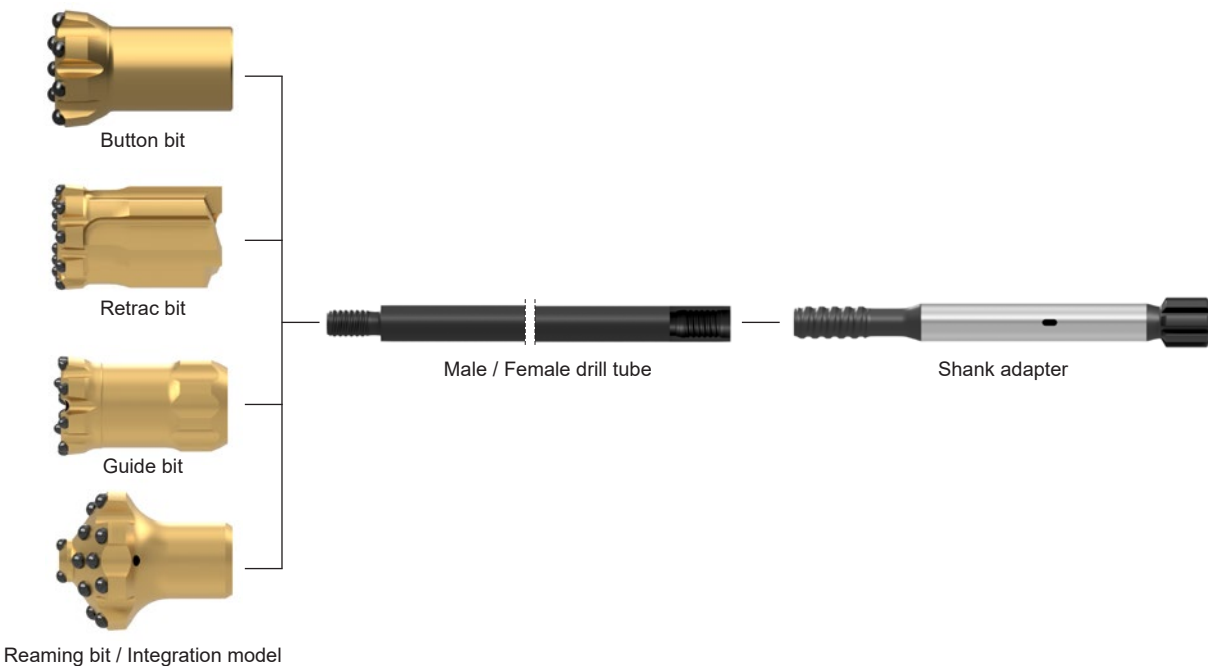
Male / Female Rod



Part Number	Thread		Outside Diameter		Length		Weight(kg)
			(mm)	(in)	(mm)	(ft/in)	
ER60GM60MF-3660F	GM60	GM60	60	2 1/4"	3660	12'	74.4
ER60GM60MF-4270F					4270	14'	86.0
ER60GM60MF-5490F					5490	18	109.3
ER60GM60MF-6100F					6100	20	121.0

BENCH & LONG HOLE DRILLING EQUIPMENT

ST58 SERIES (2 1/4") (Recommended Gauge diameter $\phi 89$ - $\phi 127$)



Various types of products are being released and are also available for BB(Semi-ballistic) and B(Ballistic).



Button Bit with Flat face Type 15



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
58WDPVS89R15M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	4.0
58WDPVS102R15M		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	5.0



Button Bit with Groove Type 23 and 25



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
58WDPVS89R23M		89	3 1/2"	35	9× $\phi 12$	6× $\phi 12$	—	3	3.9
58WDPVS102R23M		102	4"	35	9× $\phi 13$	7× $\phi 13$	—	3	5.0
58WDPVS115R23M		115	4 1/2"	35	9× $\phi 14$	7× $\phi 14$	—	3	7.0
58WDPVS127R23M		127	5"	35	9× $\phi 16$	7× $\phi 16$	—	3	9.0

Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
58WDPVS89R25M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	3.9
58WDPVS102R25M		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	4.9
58WDPVS115R25M		115	4 1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	6.9
58WDPVS127R25M		127	5"	35	8× $\phi 16$	8× $\phi 14$	—	2	8.9
58WDPVR89R25M		89	3 1/2"	35	8× $\phi 13$	6× $\phi 12$	—	2	5.6
58WDPVR102R25M		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	7.8
58WDPVR115R25M		115	4 1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	10.6
58WDPVR127R25M		127	5"	35	8× $\phi 16$	8× $\phi 14$	—	2	12.8



Button Bit with Drop Center Type 55 and 41



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
58WDPVR89R55M		89	3 1/2"	35	8×φ12	6×φ12	—	4	5.4
58WDPVR102R55M		102	4"	35	8×φ14	6×φ14	—	4	7.6
58WDPVR115R55M		115	4 1/2"	35	8×φ14	8×φ14	—	4	10.4
58WDPVR127R55M		127	5"	35	8×φ16	4×φ16, 4×φ14	—	4	12.6

Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
58WDPVS89BB41M		89	3 1/2"	35	8×φ13	6×φ12	—	4	3.8
58WDPVS102BB41M		102	4"	35	10×φ13	8×φ13	—	4	5.0
58WDPVS115BB41M		115	4 1/2"	35	10×φ14	8×φ14	—	4	6.4
58WDPVS127BB41M		127	5"	35	10×φ16	4×φ16, 4×φ14	—	4	8.6
58WDPVG89R41M		89	3 1/2"	35	8×φ13	6×φ12	—	4	3.9
58WDPVG89BB41M		89	3 1/2"	35	8×φ13	6×φ12	—	4	3.9



Button Bit with Convex Type 85



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
58WDPVS102BB85H		102	4"	20–40	8×φ12	7×φ12	—	2	5.0
58WDPVS115BB85H		115	4 1/2"	20–40	8×φ14	8×φ12	—	2	6.6
58WDPVS127BB85H		127	5"	20–40	8×φ14	4×φ14, 5×φ12	—	2	8.6



Reaming Bit integration model

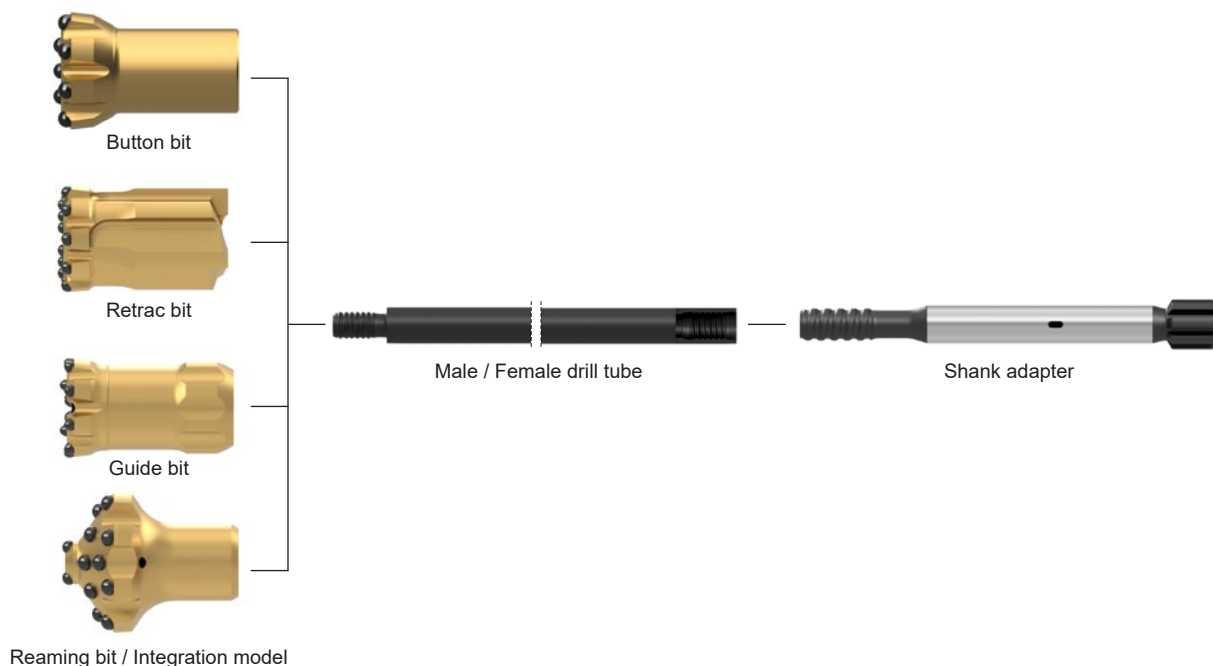


Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WI58WDP127BB-80	127	5"	30	9×φ12	3×φ12	—	3	9.5
WI58WDP152BB-80	152	6"	30	9×φ16	6×φ16	—	3	11.8
WI58WDP203BB-140	203	8"	35	9×φ16	6×φ14	—	3	20.5

Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
	(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
WI58WDP117R-75R	117	4 5/8"	35	8×φ13	4×φ13, 3×φ8	—	2	6.9
WI58WDP170R-110R	170	6 3/4"	35	9×φ16	9×φ16, 5×φ12	—	3	16.5

BENCH & LONG HOLE DRILLING EQUIPMENT

ST68 SERIES (2 3/4") (Recommended Gauge diameter $\phi 102$ - $\phi 127$)



Various type of products are being released. Please feel free to contact us.



Button Bit with Groove Type 23 and 25



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
68WDPVS102BB23M		102	4"	35	9× $\phi 13$	7× $\phi 13$	—	3	5.5
68WDPVS115R23M		115	4"1/2"	35	9× $\phi 14$	7× $\phi 14$	—	3	7.9
68WDPVS127R23M		127	5"	35	9× $\phi 16$	7× $\phi 16$	—	3	10.3
Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button	Face Button	Blow Hole		Weight(kg)
		(mm)	(in)		No × Dia(mm)	No × Dia(mm)	Side	Face	
68WDPVS102BB25M		102	4"	35	8× $\phi 14$	6× $\phi 13$	—	2	5.5
68WDPVS115R25M		115	4"1/2"	35	8× $\phi 14$	7× $\phi 13$	—	2	7.8
68WDPVS127R25M		127	5"	35	8× $\phi 16$	8× $\phi 14$	—	2	9.8



Button Bit with Drop Center Type 55 and 41



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
68WDPVG102R55M		102	4"	35	8×φ14	6×φ14	—	4	5.7
68WDPVG115R55M		115	4" 1/2"	35	8×φ14	8×φ14	—	4	8.0
68WDPVG127R55M		127	5"	35	8×φ16	4×φ16, 4×φ14	—	4	12.4
Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
68WDPVS102BB41M		102	4"	35	10×φ13	8×φ13	—	4	5.3
68WDPVS115BB41M		115	4" 1/2"	35	10×φ14	8×φ14	—	4	7.2
68WDPVS127BB41M		127	5"	35	10×φ16	4×φ16, 4×φ14	—	4	10.6
68WDPVG102BB41M		102	4"	35	10×φ13	8×φ13	—	4	5.5
68WDPVG115BB41M		115	4" 1/2"	35	10×φ14	8×φ14	—	4	8.4
68WDPVG127BB41M		127	5"	35	10×φ16	4×φ16, 4×φ14	—	4	11.3



Button Bit with Convex Type 85



Part Number	Skirt	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
		(mm)	(in)				Side	Face	
68WDPVS115BB85H		127	5"	20–40	8×φ14	8×φ12	—	2	7.6
68WDPVS127BB85H		127	5"	20–40	8×φ14	4×φ14, 5×φ12	—	2	10.0



Reaming Bit Integration model



Part Number	Gauge Diameter		Gauge Angle [°]	Gauge Button No × Dia(mm)	Face Button No × Dia(mm)	Blow Hole		Weight(kg)
	(mm)	(in)				Side	Face	
WI68WDP152BB-90	152	6"	30	9×φ16	6×φ16	—	3	10.9
WI68WDP203BB-140	203	8"	35	9×φ16	9×φ16	—	3	20.0
WI68WDP252BB-140	252	9" 15/16"	35	9×φ16	15×φ16	—	3	35.2

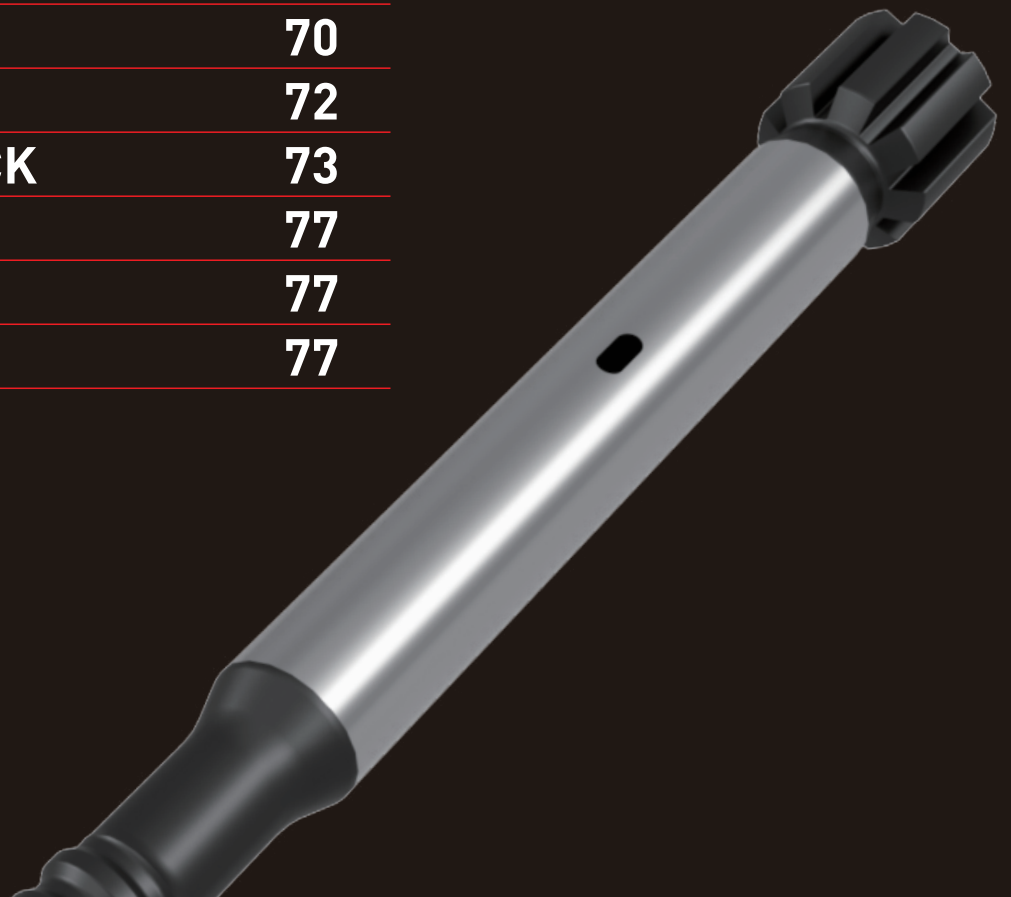
Recovery pike for ST58 and ST68



Part Number	Outside Diameter		Length		Weight(kg)
	(mm)	(in)	(mm)	(ft/in)	
FTM-58WD-GR78	78	3"	260	10 1/4"	3.4
FTM-68WD-GR88-2	88	3" 1/2"	260	10 1/4"	6.2

SHANK ADAPTER

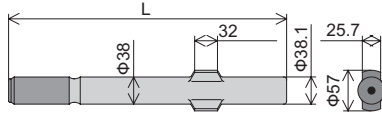
EPIROC	62
FURUKAWA	66
GARDNER DENVER	69
INGERSOLL RAND	70
MONTABERT	72
SANDVIK / TAMROCK	73
SECOMA	77
KRUPP	77
TOYO	77



SHANK ADAPTER

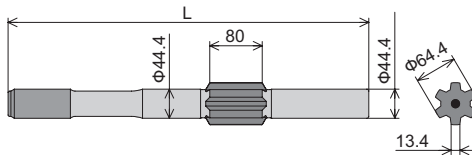
EPIROC

BBC 54, BBC 120



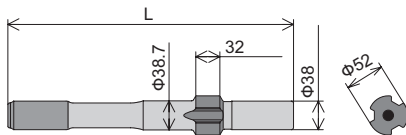
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	380	10	3.1	S32R32CBC
R38	390	10	3.3	S32R38DBD
T38	390	10	3.3	S32M38BD

BBE 57



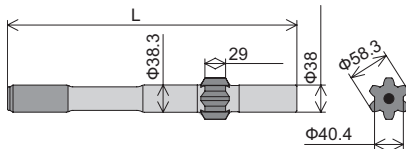
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	447	14	5.0	S58R38AB
T38	537	14	5.8	S58M38AD
T45	550	14	6.2	S58M45AE

COP 125, COP 130, COP 131



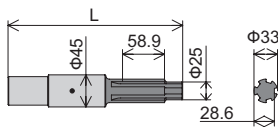
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	380	14	2.7	S64R32CAA
T38	380	14	2.9	S64M38AA

COP 131EB



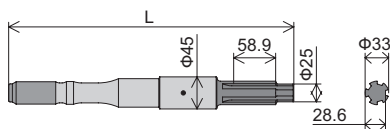
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	406	14	3.3	S190M38AA

COP 1028 Female thread



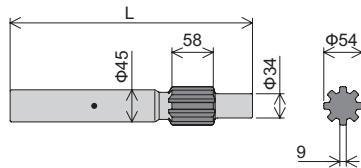
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R25F	245	SF	1.8	S100R25FSFB
R28F	245	SF	1.7	S100R28FSFB

COP 1028



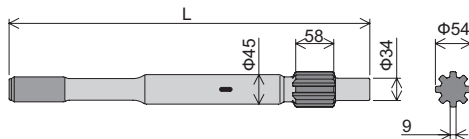
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R28	400	SF	1.4	S100R28SFA
R32	400	SF	2.8	S100R32CSFA

COP 1032 Female thread



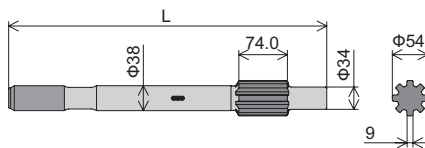
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32F	340	SF	3.6	S462R32FSFAG

COP 1032



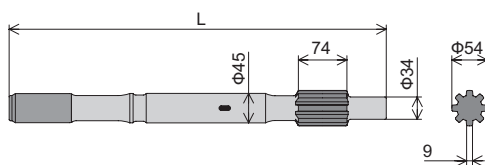
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	550	SF	5.0	S87R32SFDG
T38	550	SF	5.3	S87M38SFDG

COP 1036, COP 1038, COP 1238-(38)



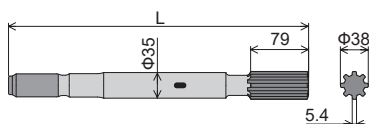
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	485	SF	4.0	S80R32SFB
R38	485	SF	4.3	S80R38SFB
T38	485	SF	4.3	S80M38SFB
R32	500	SF	4.1	S80R32CSFCG
T38	500	SF	4.4	S80M38SFC
R32	575	SF	4.7	S80R32SFEGZ
R38	575	SF	5.0	S80R38SFEGZ
T38	575	SF	5.0	S80M38SFEGZ

COP 1036, COP 1038, COP 1238-(45)



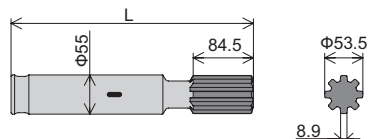
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	575	SF	5.2	S80R32ZSFEGZ
R38	575	SF	5.6	S80R38ZSFEGZ
T38	575	SF	5.6	S80M38ZSFEGZ
T45	575	SF	5.9	S80M45SFEGZ

COP 1132, COP RR11



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	410	SF	2.6	S382R32SFAGH
R32	500	SF	3.0	S382R32SFBGH

COP 1432, COP 1532 Female thread

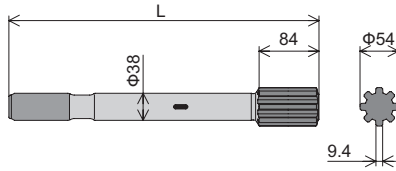


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32F	340	SF	4.3	S285R32FSFA
R38F	340	SF	4.5	S285R38FSFA

SHANK ADAPTER

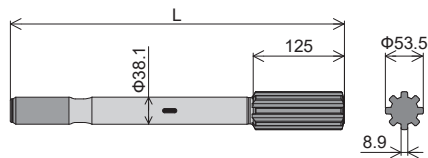
EPIROC

COP 1432, 1440, 1532, 1550, 1638, 1838, 2238 and + version



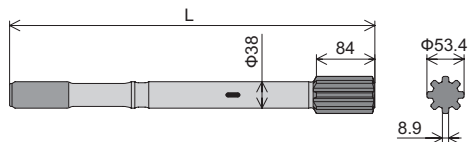
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	435	SF	3.5	S48R32SFAGH-FS
R38	435	SF	4.0	S48R38SFAGH-FS
T38	435	SF	4.0	S48M38SFAGH-FS
R32	525	SF	4.3	S48R32SFBGH-FS
R38	525	SF	4.6	S48R38SFBGH-FS
T38	525	SF	4.5	S48M38SFBGH-FS

COP MD20



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	470	SF	4.5	S411R38SFAGH-FS
T38	470	SF	4.5	S411M38SFAGH-FS

COP 1638, COP 1838AW



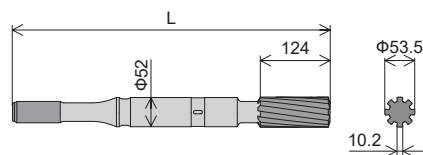
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	525	SF	4.5	S316M38SFA

COP 1838MUX/HUX and +version



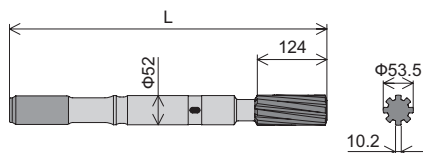
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	730	SF	9.6	S360M38SFAP
T45	730	SF	10.2	S360M45SFAP
T51	730	SF	10.6	S360M51SFAP

COP 1240,1640, 1840, 1850,2150,2550 and + version COP SC16, SC19, SC 25-HF



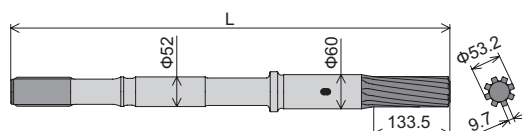
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	565	SF	6.8	S293M38SFA

COP 1840, 1850, 2150, 2550 and + version



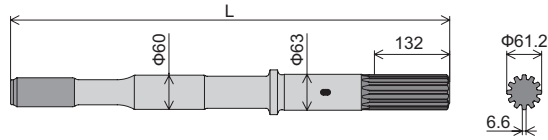
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	565	SF	7.1	S293M45SFA
T51	565	SF	7.3	S293M51SFA

COP 1240EX, 1640EX, 1840EX, 1850EX, 2150EX, 2550EX, COP SC19X, SC 25X-HF



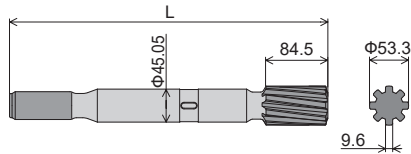
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	770	SF	10.9	S301M38SFAG
T45	770	SF	11.2	S301M45SFAG
T51	770	SF	12.7	S301M51SFAG

COP 2160EX, 2560EX



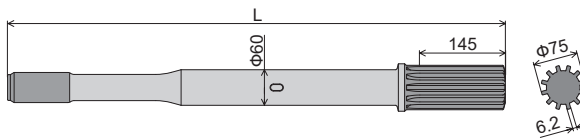
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	770	SF	13.6	S312M51SFA
T45	770	SF	13.1	S312M45SFA
GT60	770	SF	14.3	S312GM60SFA

COP 3038, 4038



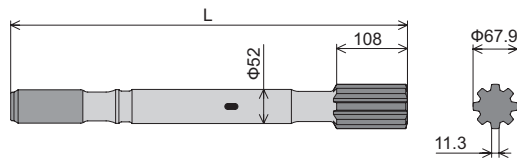
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	435	SF	4.7	S386M38SFAP
T45	435	SF	5.0	S386M45SFAP

COP 3060MEX



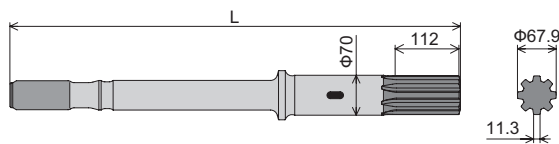
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	840	SF	15.8	S370M51SFAG-FS

COP 4050(L)



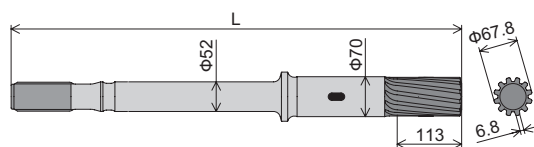
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	605	SF	9.3	S334M51SFA

COP 4050EX



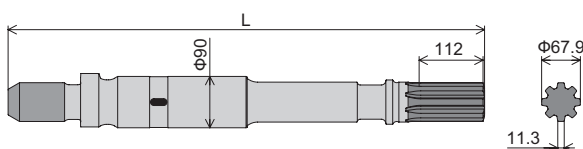
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	790	SF	14.8	S343M51SFAG

COP4050EX (Spiral)



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	790	SF	15.0	S299M51SFAG

COP 4050MUX

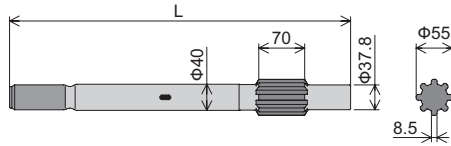


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
WD58	835	SF	26.0	S284WD58SFAG
WD68	835	SF	27.1	S284WD68SFAG

SHANK ADAPTER

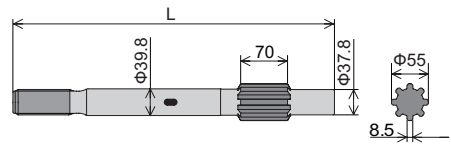
FURUKAWA

HD 150



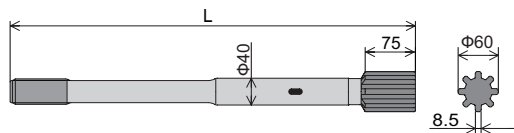
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	520	SF	5.0	S110R38SFAG
T38	520	SF	5.0	S110M38SFAG

HD 190



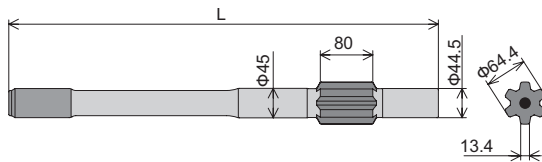
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	480	SF	4.6	S166R38SFAG
T38	480	SF	4.6	S166M38SFAG

HD 210



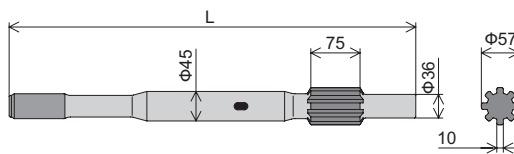
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	605	SF	5.9	S244R38SFAG
T38	605	SF	5.9	S244M38SFAG

HD 300



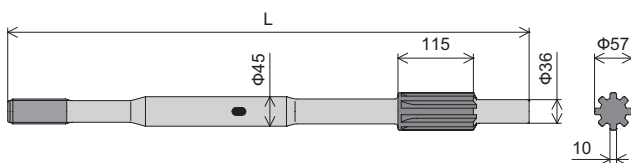
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	655	16	6.1	S62M38AA
T45	655	16	6.8	S62M45AA

HD 609



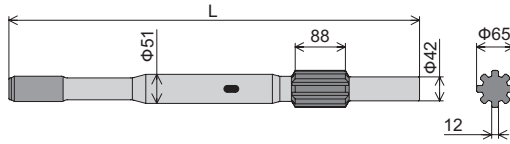
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	620	SF	5.7	S142M38SFAG
T45	620	SF	6.4	S142M45SFAG
T38	690	SF	6.4	S142M38SFBG
T45	690	SF	7.2	S142M45SFBG

HD 609RP



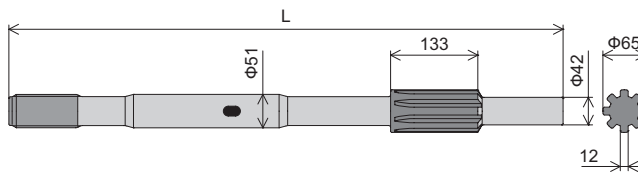
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	795	SF	7.7	S116R32SFAG
T38	795	SF	7.9	S116M38SFAG
T45	795	SF	8.3	S116M45SFAG
T38	865	SF	8.4	S116M38SFBG
T45	865	SF	8.8	S116M45SFBG

HD 612



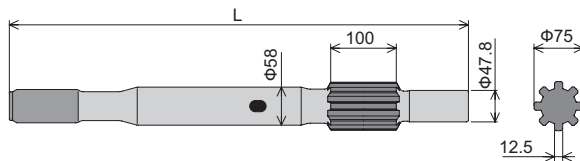
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	710	SF	8.8	S173M38SFC
T45	710	SF	9.2	S173M45SFC
T51	710	SF	9.8	S173M51SFC

HD 612RP



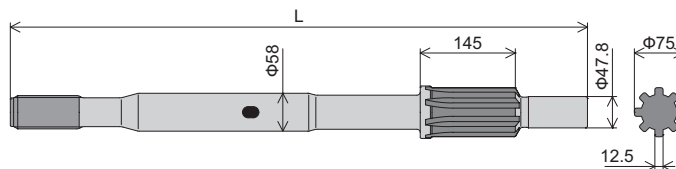
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	845	SF	10.6	S117M38SFAG
T45	845	SF	11.0	S117M45SFAG
T51	845	SF	11.7	S117M51SFAG
T38	885	SF	10.9	S117M38SFBG
T45	885	SF	11.4	S117M45SFBG
T51	905	SF	12.4	S117M51SFDG

HD 615



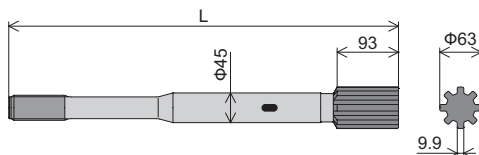
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	700	SF	10.7	S123M45SFAG
T51	700	SF	11.7	S123M51SFAG
T51	880	SF	14.0	S123M51SFBG

HD 615RP



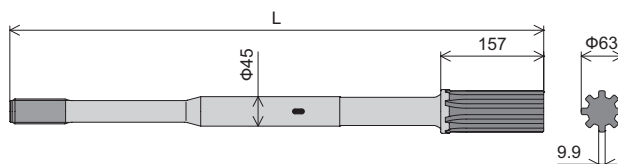
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	880	SF	14.0	S126M45SFAG
T51	880	SF	14.7	S126M51SFAG

HD 709



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	590	SF	6.2	S237M38SFAG
T45	590	SF	6.8	S237M45SFAG
T38	620	SF	6.5	S237M38SFBG
T45	620	SF	7.0	S237M45SFBG

HD 709RP

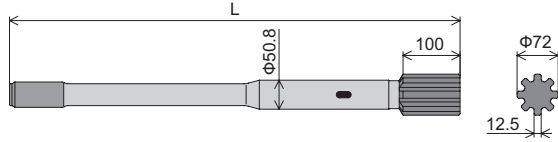


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	785	SF	8.8	S245M38SFBG
T45	785	SF	9.2	S245M45SFBG
T38	814	SF	9.1	S245M38SFAG
T45	814	SF	9.5	S245M45SFAG

SHANK ADAPTER

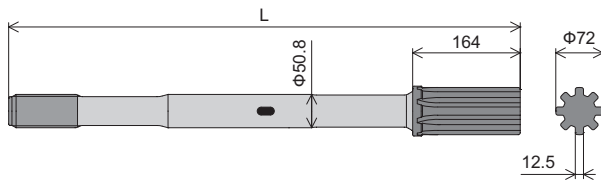
FURUKAWA

HD 712



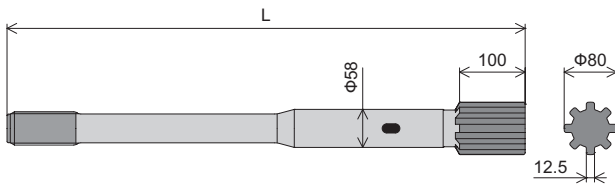
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	592	SF	8.4	S222M45SFAG
T51	592	SF	8.7	S222M51SFAG
T45	790	SF	9.9	S222M45SFBG
T51	790	SF	10.8	S222M51SFBG

HD 712RP



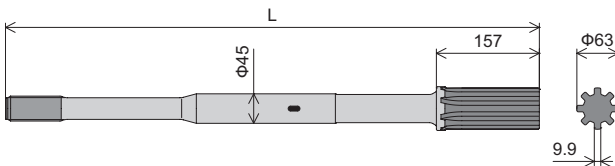
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	787	SF	11.9	S221M45SFAG
T51	787	SF	14.6	S221M51SFAG
T45	885	SF	12.7	S221M45SFBG
T51	885	SF	13.1	S221M51SFBG

HD 715



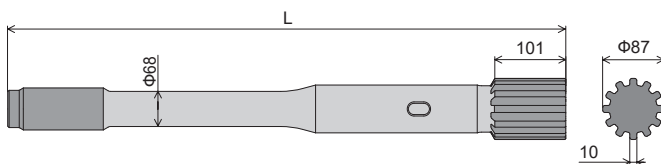
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	790	SF	12.0	S238M45SFAG
T51	790	SF	12.7	S238M51SFAG

HD 818RP



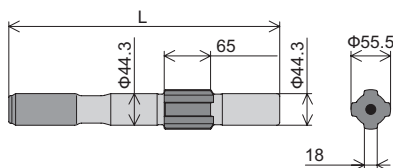
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	814	SF	9.1	S401M38SFAG
T45	814	SF	9.5	S401M38SFBG

HD 836



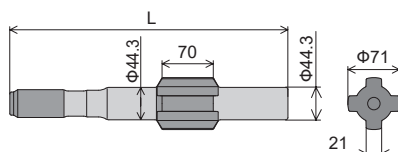
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
GT60	794	SF	16.9	S433GM60SFAG

PD 200



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	380	14	3.6	S51M38AB
T38	446	14	4.0	S51M38AG

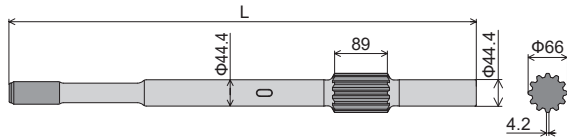
PD 200



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	460	14	5.4	S50M45AD
R38	485	14	5.3	S50R38AB
T38	485	14	5.2	S50M38AB
T45	485	14	5.4	S50M45AB

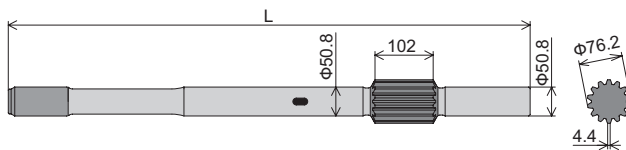
GARDNER DENVER

HPR-45



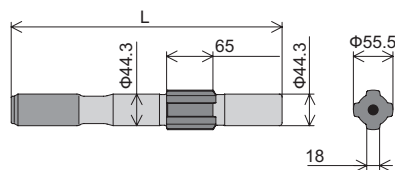
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	770	SF	8.9	S364M38SFAG
T45	770	SF	9.4	S364M45SFAG

HPR 2



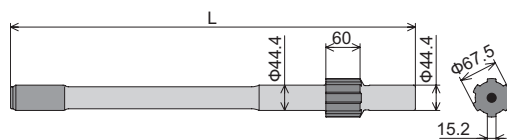
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	915	SF	14.3	S267M51SFAGZ

PR 123, VL 120, VL 140



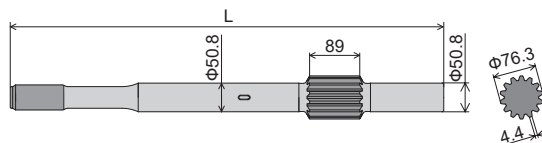
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	380	14	3.7	S51R32AB
R38	380	14	3.8	S51R38AB
T38	380	14	3.6	S51M38AB
T45	380	14	4.0	S51M45AB
T38	446	14	4.0	S51M38AG

PR 66



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	710	16	4.8	S75M38AA
T45	710	16	5.8	S75M45AA

HPR 51

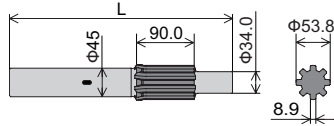


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	769	SF	11.6	S356M45SFAG
T51	769	SF	12.1	S356M51SFAG

SHANK ADAPTER

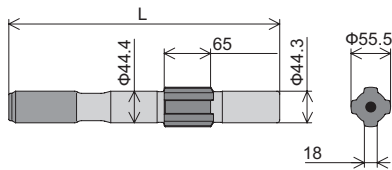
INGERSOLL RAND

Hydrastar 200 Female thread



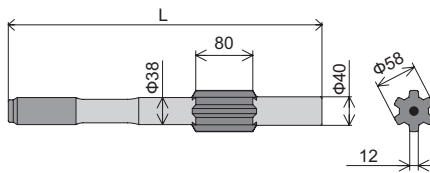
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32F	351	SF	3.2	S109R32FSFA

URD 475, URD 550, VL120, EVL 130, VL140, F16



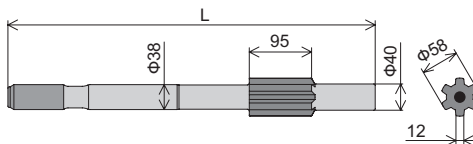
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	380	14	3.7	S51R32AB
R38	380	14	3.8	S51R38AB
T38	380	14	3.6	S51M38AB
T45	380	14	4.4	S51M45AB
T38	446	14	4.0	S51M38AG

YH 50, YH 55



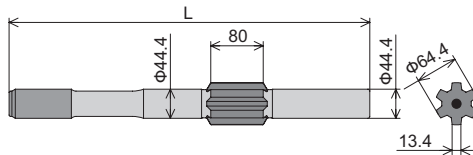
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	440	16	3.8	S84M38AA

YH 50 RP, YH 55RP



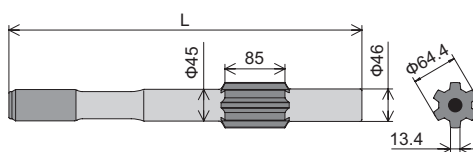
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	560	16	5.1	S06M38AB

YH 60A



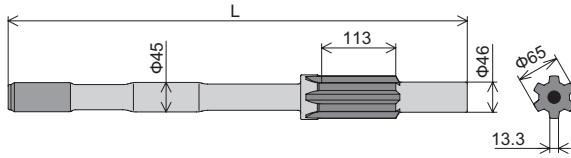
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	537	14	5.8	S58M38AD

YH 65, YH 70, YH 80



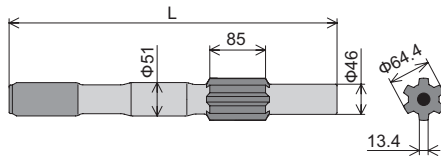
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	480	19	5.0	S63M38AB
T45	480	19	5.5	S63M45AB
T38	500	19	5.2	S63M38AC
T45	500	19	5.5	S63M45AC

YH 65 RP, YH 70 RP, YH 80 RP



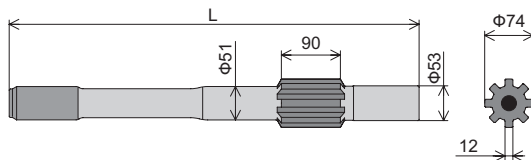
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	700	19	8.0	S25M38AA
T45	700	19	8.1	S25M45AA

YH 80A



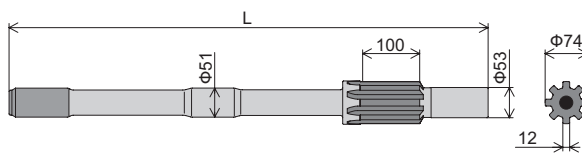
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	495	19	6.0	S198M45AA
T51	500	19	6.3	S198M51AB

YH 95, YH 100



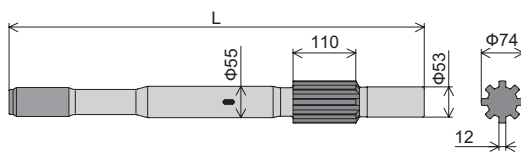
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	625	23	8.3	S09M51AA

YH 95 RP, YH 100 RP



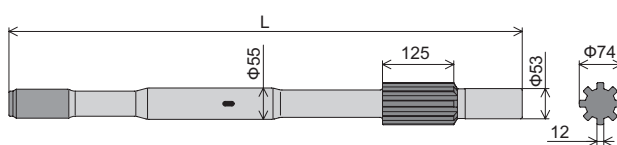
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	840	23	11.4	S03M51AA

YH 110 V, YH 135



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	728	SF	11.6	S127M45SFAG
T51	728	SF	12.0	S127M51SFAG

YH 110 VRP, Y 135 RP

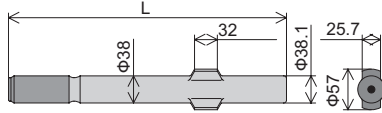


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	900	SF	14.8	S128M51SFAG

SHANK ADAPTER

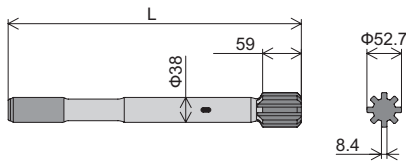
MONTABERT

H 50, H 60, H 70



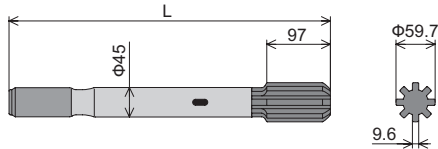
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	380	10	3.1	S32R32CBC
R38	390	10	3.3	S32R38DBD
T38	390	10	3.3	S32M38BD

HC 40, HC 50



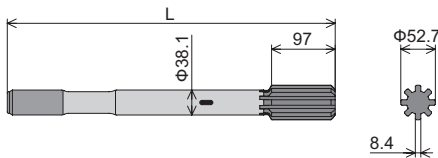
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	372	SF	3.0	S77R32SFDG
R38	372	SF	3.2	S77R38SFDG
T38	372	SF	3.2	S77M38SFDG

HC 80, HC 120



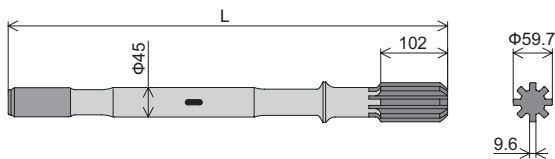
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	490	SF	5.8	S209M38SFAG
T45	490	SF	5.7	S209M45SFAG

HC 80, HC 90, HC 105, HC 120



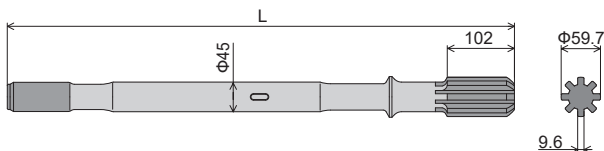
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	440	SF	3.6	S73R32SFBG
R38	440	SF	4.0	S73R38DSFBG
T38	440	SF	4.0	S73M38SFBG
T38	500	SF	4.3	S73M38SFAG

HC 80 RP, HC 110 RP, HC 120 RP, HC 150 RP, HC 155 RP, HC 158 RP



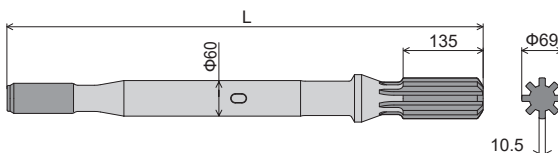
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	670	SF	7.4	S70M38SFAG
T45	670	SF	7.5	S70M45SFAG

HC 80 RP, HC 105 RP, HC 107 RP, HC 108 RP, HC 109 RP



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	770	SF	7.5	S383M45SFAG

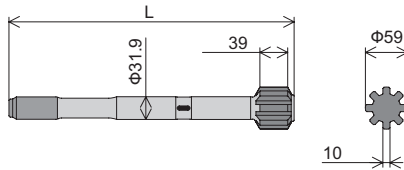
HC 160, HC 170



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	803	SF	15.1	S329M51SFAG

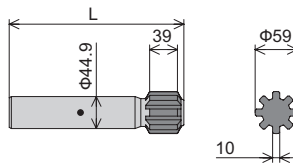
SANDVIK / TAMROCK

HL 300



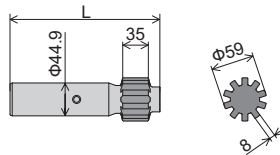
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	400	SF	2.6	S292R32SFAG

HL 300S Female thread



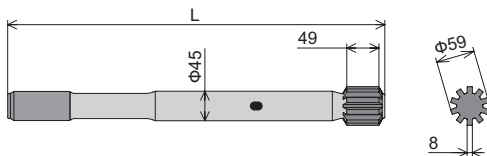
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32F	245	SF	2.6	S150R32FSFAG

RD 308, RD 314, RD 414 Female thread



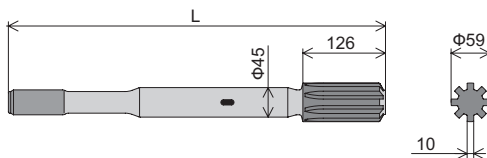
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32F	205	SF	2.1	S427R32FSFAG-FS

HLX 5, HLX 5T, HFX 5T, RDX 5



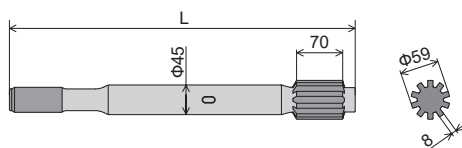
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	500	SF	5.4	S268R32SFAGH-FS
R38	500	SF	5.4	S268R38SFAGH-FS
T38	500	SF	5.4	S268M38SFAGH-FS
R32	575	SF	5.7	S268R32SFBGH-FS
T38	575	SF	5.8	S268M38SFBGH-FS
T45	575	SF	6.3	S268M45SFBGH-FS

HLX 5 PE, RDX 5 PE



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	575	SF	6.3	S330M38SFAGH-FS
T45	575	SF	6.7	S330M45SFAGH-FS

RD 520, RD 525

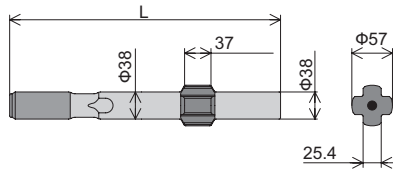


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	525	SF	5.7	S348M38SFAGH-FS
T45	525	SF	6.2	S348M45SFAGH-FS

SHANK ADAPTER

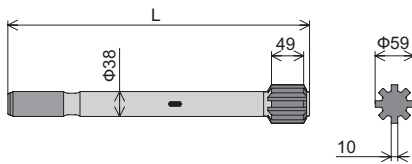
SANDVIK / TAMROCK

HL 438, HL 538



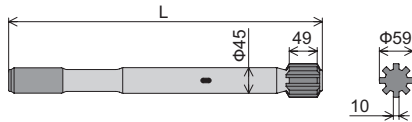
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	450	SF	4.0	S39R38SFDG
T38	455	SF	4.1	S39M38SFDG

HL 500S, HL 510S, HL 510B, HL 510LH



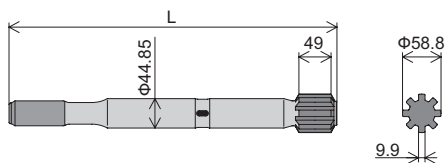
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	460	SF	3.8	S12R32SFAGH-FS
R38	460	SF	4.1	S12R38SFAGH-FS
T38	460	SF	4.1	S12M38SFAGH-FS
R38	500	SF	4.4	S12R38SFDGH-FS
T38	500	SF	4.4	S12M38SFDGH-FS
R32	550	SF	4.4	S12R32SFBGH-FS
R38	550	SF	4.8	S12R38SFBGH-FS
T38	550	SF	4.8	S12M38SFBGH-FS

HL 500, HL 510, HL 510S, HL 550S, HL 560S



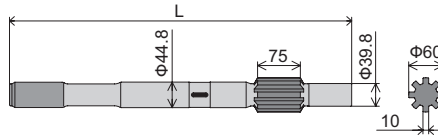
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	500	SF	5.4	S12R38ZSFDGH-FS
T38	500	SF	5.4	S12M38ZSFDGH-FS
R32	550	SF	5.6	S12R32ZSFBGH-FS
T38	550	SF	5.7	S12M38ZSFBGH-FS
T45	550	SF	6.1	S12M45ZSFBGH-FS

HL 550S



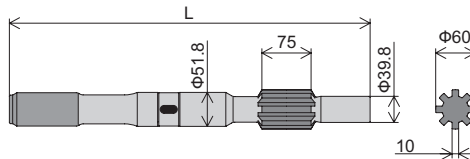
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R38	500	SF	5.4	S155R38SFAG
T38	500	SF	5.3	S155M38SFAG

HL 600, HL 600S



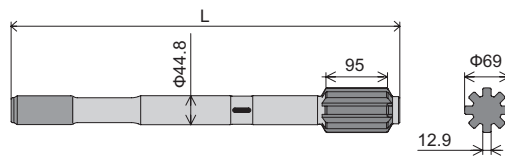
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	600	SF	6.6	S17M45SFAG

HL 600-Φ52



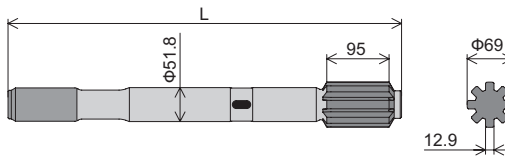
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	650	SF	8.5	S215M51SFA

HL 650, HL 700, HL 710, HL 800T, HL 810T, HF 810T, HL 820T, HF 820T



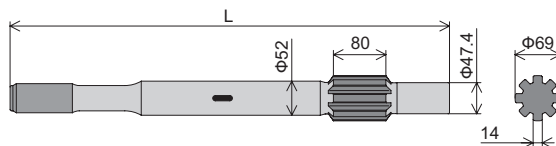
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	600	SF	7.5	S240M45SFAG

HL 650, HL 700, HL 710, HL 710 PE, HL 710S PE, HL/HF 810T, HL/HF 820T, HL/HF 810T PE, HL/HF 820T PE, HL 810ST, HL 820ST



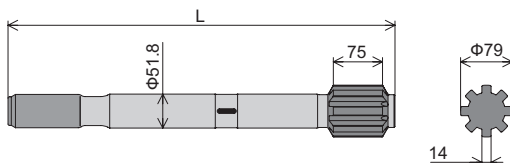
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T38	600	SF	8.4	S196M38SFAG
T45	600	SF	8.6	S196M45SFAG
T51	600	SF	9.1	S196M51SFAG

HL 850S



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	600	SF	9.8	S60M45SFB

HL 1000, HL 1000S, HL 1010, HL 1010S

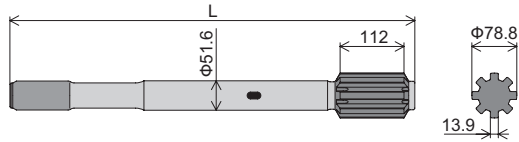


Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	590	SF	8.6	S13M45SFAG
T51	670	SF	10.6	S13M51SFBG

SHANK ADAPTER

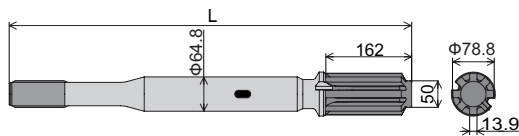
SANDVIK / TAMROCK

HL 1500-52, HL 1500-T52



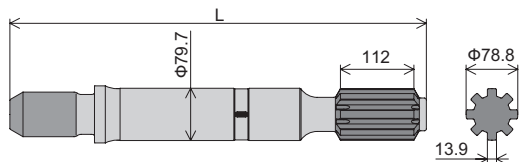
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T45	710	SF	11.1	S283M45SFBG
T51	710	SF	11.5	S283M51SFBG

HL 1500-PE



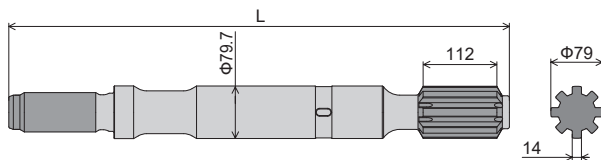
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
T51	760	SF	16.1	S298M51SFAG
GT60	760	SF	17.1	S298GM60SFAG

HL 1500-80, 1560-T80, HL 1560ST



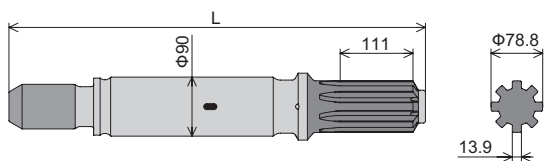
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
ST58	635	SF	17.5	S283WD58SFAG
ST68	635	SF	18.5	S283WD68SFAG

HL 1500-80, 1560-T80



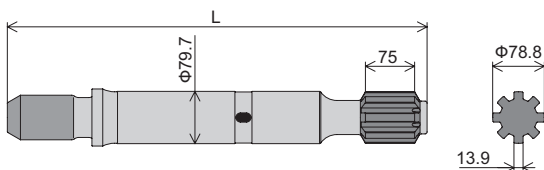
Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
GT60	760	SF	21.3	S283GM60SFCP

HL 1500ST PE, HL 1560ST PE



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
ST58	635	SF	21.6	S332WD58SFAG
ST68	635	SF	22.6	S332WD68SFAG

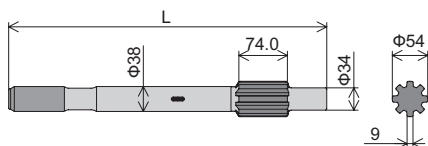
HL 1000 for tube



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
ST58	629	SF	18.2	S258WD58SFAG
ST68	629	SF	19.0	S258WD68SFAG

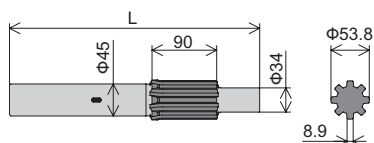
SECOMA

Hydrastar 200, 300, 350 X2



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	485	SF	4.3	S80R32SFB
R38	485	SF	4.3	S80R38SFB
M38	485	SF	4.0	S80M38SFB

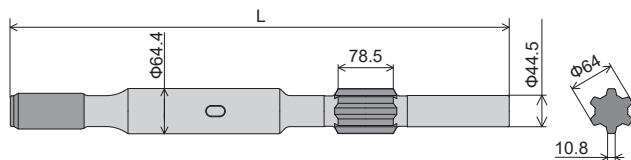
Hydrastar 200(RP)



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
R32	351	SF	3.7	S109R32FSFAG

KRUPP

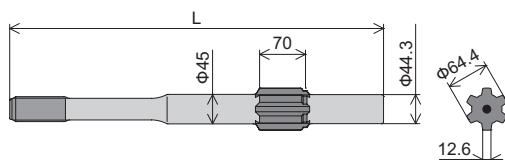
HB 101



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
M51	710	SF	11.8	S393M51SFAG

TOYO

TH 500, TH 550



Thread	Length(L) [mm]	Flushing tube dia [mm]	Weight [Kg]	Part number
M38	570	12	5.9	S57M38AB

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IDENTIFY SAFETY HAZARDS

Carefully read and follow the below safety warnings and instructions prior to engaging in work with equipment.

- It is prohibited to use tool for other purpose.
- Tool must be firmly connected and used properly.
- During use, there is a likelihood of tool failure, take appropriate safety measures.
- Heavy object, take appropriate precautions when handling.
- This product contains or produces chemicals known to the State of California to cause cancer, such as cobalt (7440-4-84).

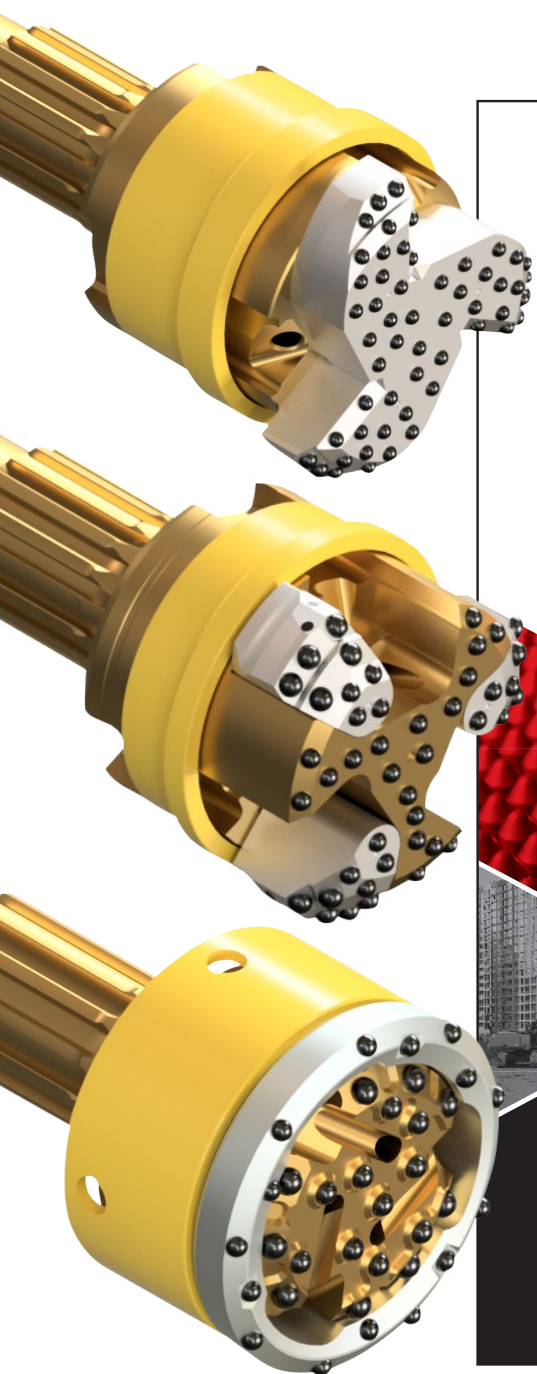
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- Grinding cutting etc. of carbide insert of rock bits can be potentially hazardous.

Use adequate ventilation. Refer to the applicable material safety data sheet.

<https://www.ryotec.co.jp/en/company/environment.html>

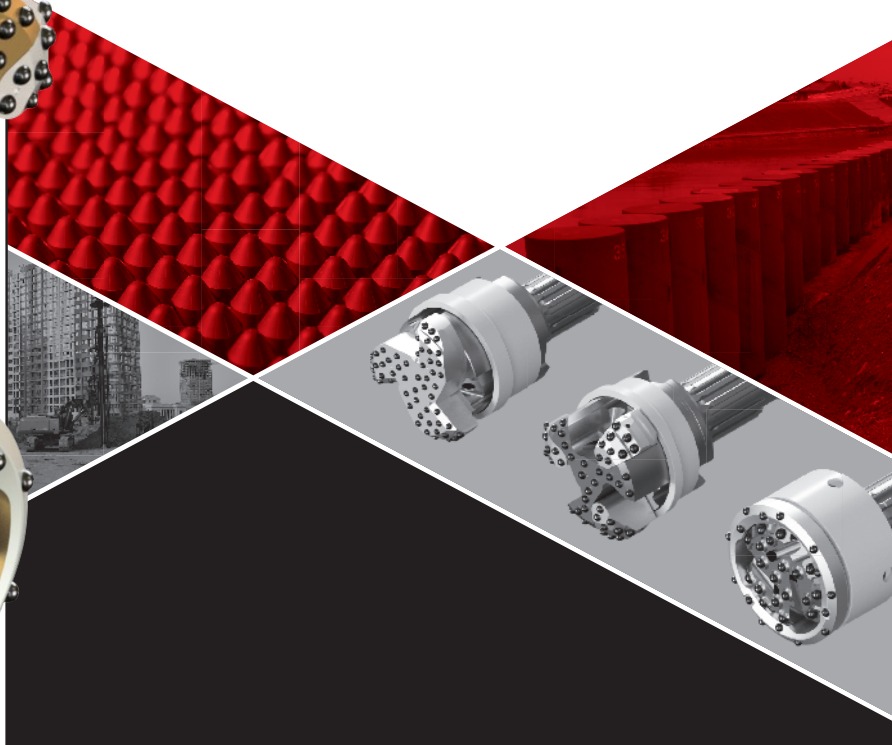
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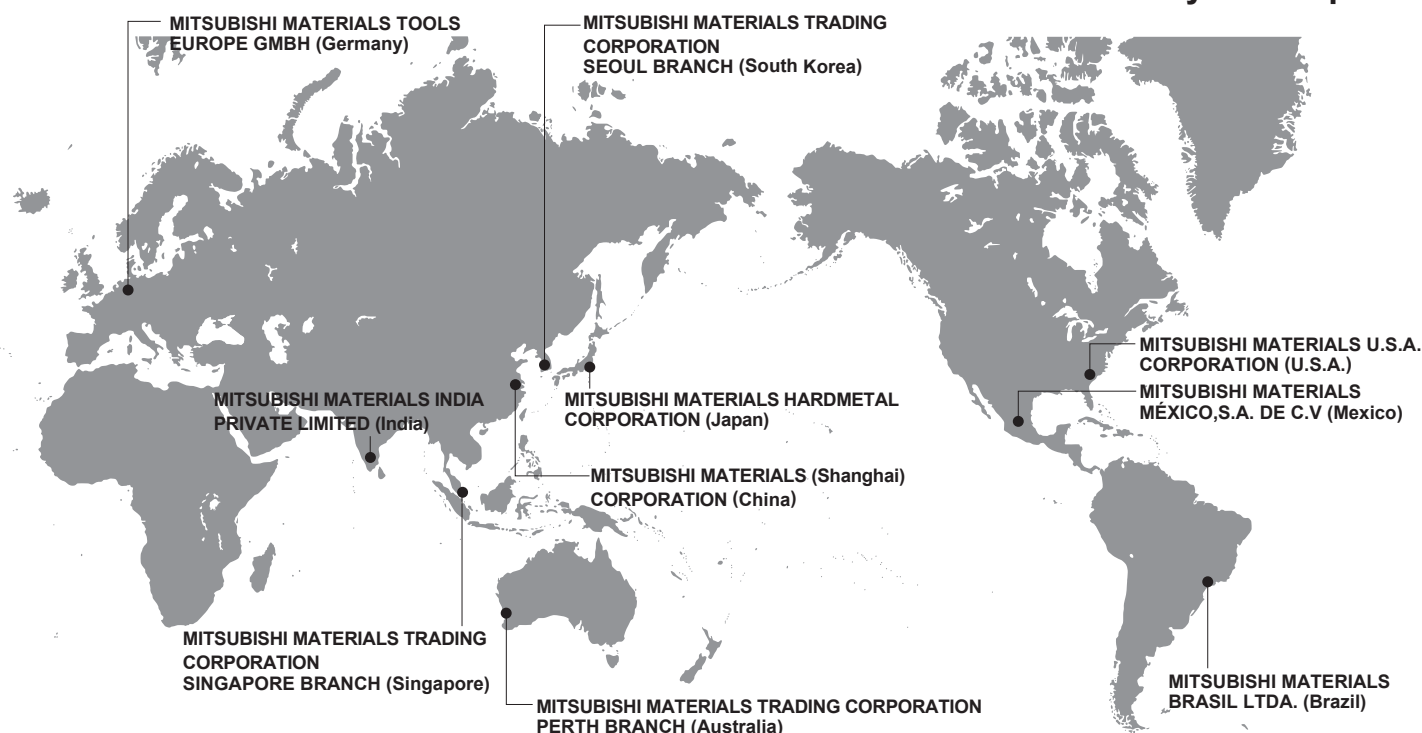


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