Member IMC Group

DEEP HOLE TOOLING MANUFACTURER

Single Tube system

Double Tube system

INDEX

Unitac offers a full range of brazed and Indexable single tube and double tube drillheads for the best performance in each type of deep hole drilling operation. These drill heads are designed to deliver optimum surface finish,accuracy and tool life all at a faster feed rate to improve productivity.

The three different types of tool systems commonly used for drilling deep holes are Single Tube System (STS), Double Tube System(DTS) and gundrills. The STS is the most efficient, reliable method available today for producing deep holes from solid that are both straight and true. The STS is capable of drilling holes as deep as 300 times the drill diameter, while maintaining hole-size tolerances of H9. What's more heavy feed rates can help boost productivity in most any industrial application.

All of the systems are designed to cut holes without chip congestion, but differ in the way chips are removed.

In STS coolant is pumped under high pressure around the OD of the drill. Chips are forced through an opening near the cutting edge of the tool and then out through the hollow drill tube at the back.

In Gundrill systems, pressurized coolant is pumped through the ID of the drill and exits near the cutting edge through one or more holes. Chips are carried along the tool's flute and forced out through the bushing carrier.

In DTS pressurized coolant is fed between inner and outer tubes in the drill shank up to the drill head. Chips are driven back through the inner tube in the shanks and forced out the back.

Even though all of these systems perform productively in particular applications, the STS offers greater overall reliability.

SINGLE TUBE SYSTEM (STS)

Why does the STS offer greater overall reliability? Rigidity is a limiting factor in gundrills. Gundrills have a V-shaped flute from which chips are removed externally. This design makes gundrills less resistant to torque or thrust than STS tools. Not only can torque cause high deflection or twisting, but axial forces can cause either deflection or buckling . The gundrill feed rate is therefore usually kept to between one-tenth and one-half the common feed rate for STS holes.

The DTS also has its limitations - especially in drilling very deep holes. The boring bars have a double tube system in which coolant is fed between the inner and outer walls and chips exit through the inner wall. As the hole depth increases, more coolant and pressure are required to move the coolant to the cutting edge, but the double tube design causes the volume of coolant to diminish as the hole lengthens. As a result, the coolant flow may not be sufficient to protect the cutting edge and remove the chips. This problem may occur even in relatively short holes, especially those of small diameter.

The STS doesn't have these problems. STS tools are rigid enough to drill deep holes while holding exact tolerances in ID dimensions and straightness. Moreover, the pressurized coolant system provides enough cooling and chip removal to prevent chip congestion. The volume of coolant used helps to support the cylindrical drill tube and the drilling head, while a double feeder attachment provides vacuum-assisted chip removal.

DOUBLE TUBE SYSTEM (DTS)

Unlike the alternatives gundrill and STS, the DTS has a unit construction which can be easily adapted to normal metal cutting machines, such as lathes or milling machines. It can be used on either a vertical or horizontal machine with only minor modifications for coolant induction.

DTS is characterized by an internal method of chip exhaust which uses two tubes and a connector for the coolant supply and eliminates the need of a pressure head.

The coolant is supplied through the connector. Approximately two-thirds of the coolant flows between the inner diameter of the outer tube and the outer diameter of the inner tube. The remaining coolant is drawn off through the nozzle creating a vacuum which causes backward ejection of chips through the ID of the inner tube.

The followings are deep hole drilling methods that may be carried out using the STS or DTS.

SOLID DRILLING

With this process only one operation is necessary to obtain the required hole diameter. Often no subsequent machining is necessary because of the high quality surface finish, straightness and hole tolerance.

COUNTERBORING

This process is used to open up a pre-bored hole to obtain a more exact diameter. In some instances where machine power is limited, a hole can be drilled with a smaller diameter drill head and counterbored to the required diameter.

REAMING

Reaming is carried out to obtain a precise hole tolerance. Under normal cutting conditions an H6-H8 tolerance can be kept. The depth of cut per side is smaller than when counterboring since the main purpose of reaming is to get good hole quality.

CHIP FORWARD REAMING HEADS WITH INNER SINGLE START THREAD - Easily adapted without modification to a gundrilling machine, and in combination with a coolant adapter, also, to lathes, milling machines and machining centers. These heads can be used only for through-hole reaming. Coolant is pumped through the boring bar to which the head is attached - then through the head between guide pads and over the cutting edge. Chips are expelled forward through the existing hole.

CHIP BACK REAMING HEADS WITH INNER SINGLE START THREAD-used in the STS system only, for both blind and through-hole reaming . Coolant is pumped over the boring bar and tool. Chips are expelled through the center of the boring bar and out though the spindle. In reaming through holes, the exit end of the part must be sealed.

CHIP FORWARD REAMING HEADS WITH A FOUR START THREAD - Designed for use in double tube deep hole drilling systems. They can be used for through -hole reaming only.

CHIP BACK REAMING HEADS WITH A FOUR START THREAD - Also designed for use in double tube deep hole drilling systems. They can be used for both blind and through-hole reaming.

Both chip forward and chip back reaming heads have a single lipped carbide cutting edge with a precision ground chipbreaker and two carbide guide pads that are extra long for added directional control and better burnishing performance. The tools are stocked in the maximum diameter of each size range and finish ground to order, insuring excellent chip formation, surface finish and size control.

Depending on the production set up, Unitac reamers can be used either to follow an existing bore, or to straighten a non-concentric bore. Standard carbide cutting speeds are used with a typical feed rate of .635mm/revolution for diameters as low as 10.16mm. On some materials, surface finishes below 20 micro mms can be obtained. Hole tolerances of ±0.0127 mm or closer can be held, depending on setup and finish diameter required. All reamers come with a quick-change thread and with sufficient carbide on the cutting edge for several regrinds.

Standard lead angles on Unitac reaming heads are 20° and 45°. A guide bushing is recommended with the use of both 20° lead and 45° lead heads. In some cases, however a guide bushing may not be requisite with a 20° lead head.

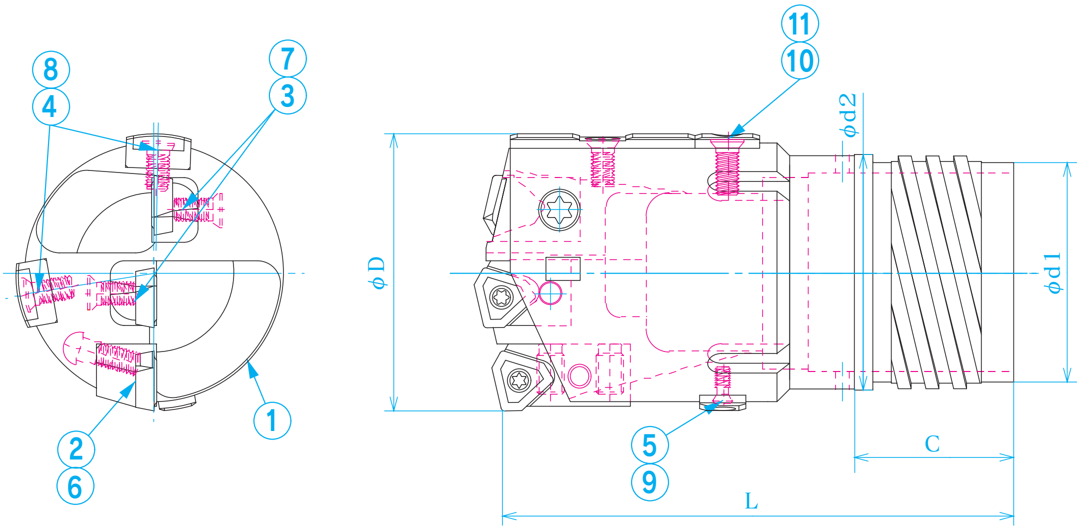
General reaming practice is to leave 0.381mm of stock per side though surface finish will be improved with more stock per side.

Chip back reamers must be run with an oil pressure head or a double tube connector. When using these tools for though hole reaming the exit end must be sealed off.

REAMING INFORMATION AVAILABLE UPON REQUEST.

UNIDEX 3 CARTRIDGE TYPE

OUTER FOUR START THREAD



① Head Shank ② Outer Cartridge ③ Inner and Center Cartridge ④ Guide Pad ⑤ Sub Guide Pad
⑥ Lock Screw ⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Guide Pad Protector ⑪ Lock Screw

※ Heads larger than 92mm have an extra guide pad pocket with filler. These heads may also be used for counterboring at which time the filler should be replaced by a third guide pad and guide pad protector.

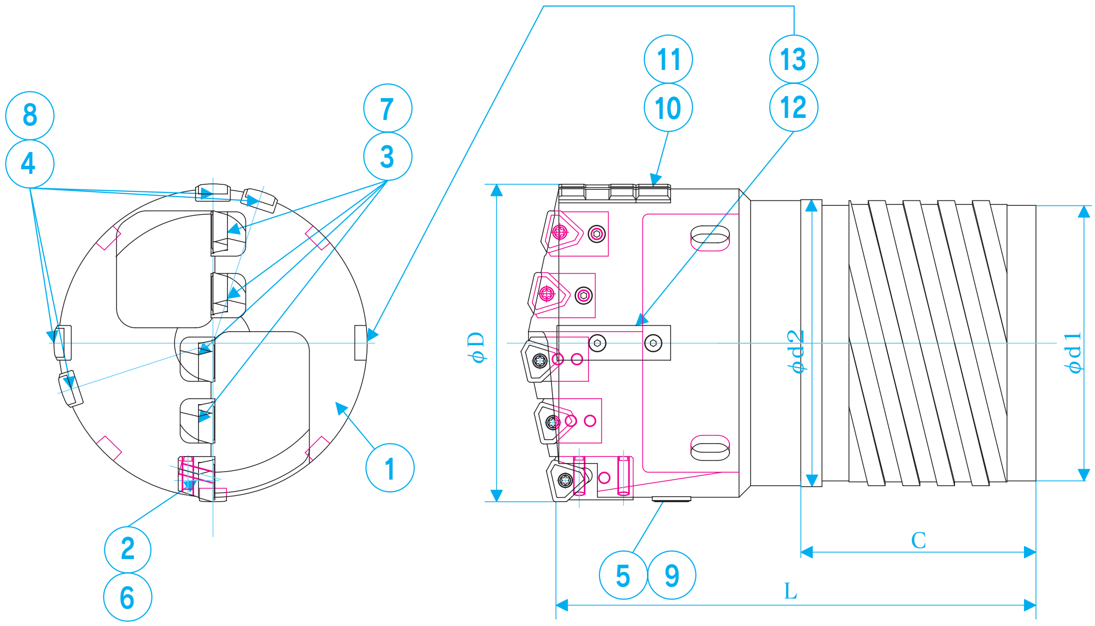
※ Drill heads come complete with: cartridges, guide pads, guide pad protectors, sub guide pads and wrenches - but less inserts. Please see pages 14 - 17 for ordering inserts and spare parts.

Plus(+)spare parts will enlarge drill diameter up to 5mm depending on outer cartridge size.(page 18 for details)

Unitac Part No.	Diameter (mm)	Dimensions (mm)			
		L	C	d1	d2
KUSTS07E-xx.xx	38.00 - 39.60	85	30.5	27	30
KUSTS08E-xx.xx	39.61 - 43.00	85	30.5	30	33
KUSTS09E-xx.xx	43.01 - 47.00	95	30.5	33	36
KUSTS10E-xx.xx	47.01 - 51.70	95	30.5	36	39
KUSTS11E-xx.xx	51.71 - 56.20	100	34.5	39.5	43
KUSTS12E-xx.xx	56.21 - 60.60	110	34.5	43.5	47
KUSTS13E-xx.xx	60.61 - 65.00	110	34.5	47.5	51
KUSTS14E-xx.xx	65.00 - 66.99	150	62	47	52
KUSTS15E-xx.xx	67.00 - 72.99	150	62	53	58
KUSTS16E-xx.xx	73.00 - 79.99	150	62	58	63
KUSTS17E-xx.xx	80.00 - 86.99	180	82	64	70
KUSTS18E-xx.xx	87.00 - 99.99	180	82	71	77
KUSTS19E-xxx.xx	100.00 - 106.99	180	82	83	89

Drill Tube	
Part No.	Dia(mm)
ST07	33
ST08	36
ST09	39
ST10	43
ST11	47
ST12	51
ST13	56
ST14	56
ST15	62
ST16	68
ST17	75
ST18	82
ST19	94

UNIDEX 5 CARTRIDGE TYPE



① Head Shank ② Outer Cartridge ③ Inner & Center Cartridge ④ Guide Pad ⑤ Sub Guide Pad ⑥ Lock Screw ⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Guide Pad Protector ⑪ Lock Screw ⑫ Filler ⑬ Lock Screw

※ Heads larger than 92mm have an extra guide pad pocket with filler. These heads may also be used for counterboring at which time the filler should be replaced by a third guide pad and guide pad protector.

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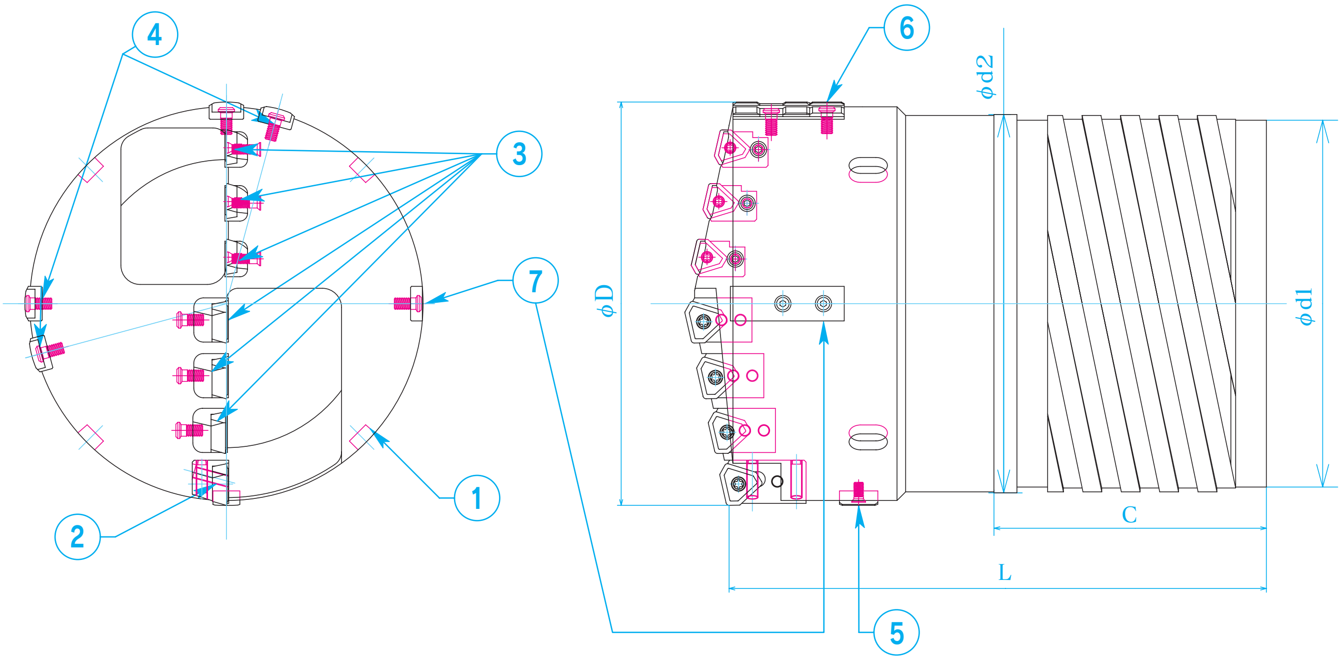
Plus(+)spare parts will enlarge drill diameter up to 5mm depending on outer cartridge size.(page 18 for details)

Unitac Part No.	Diameter (mm)	Dimensions (mm) L	C	d1	d2
KUSTS19E - xxx.xx	107.00 - 111.99	180	82	83	89
KUSTS20E - xxx.xx	112.00 - 123.99	205	102	95	101
KUSTS21E - xxx.xx	124.00 - 135.99	205	102	107	113
KUSTS22E - xxx.xx	136.00 - 147.99	205	102	119	125
KUSTS23E - xxx.xx	148.00 - 159.99	225	122	131	137
KUSTS24E - xxx.xx	160.00 - 168.99	225	122	143	149

Drill Tube Part No.	Dia(mm)
ST19	94
ST20	106
ST21	118
ST22	130
ST23	142
ST24	154

UNIDEX 7 CARTRIDGE TYPE

OUTER FOUR START THREAD



① Head Shank ② Outer Cartridge&Lock Screw ③ Inner & Center Cartridge&Lock Screw ④ Guide Pad&Lock Screw ⑤ Sub Guide Pad&Lock Screw ⑥ Guide Pad Protector&Lock Screw ⑦ Filler&Lock Screw

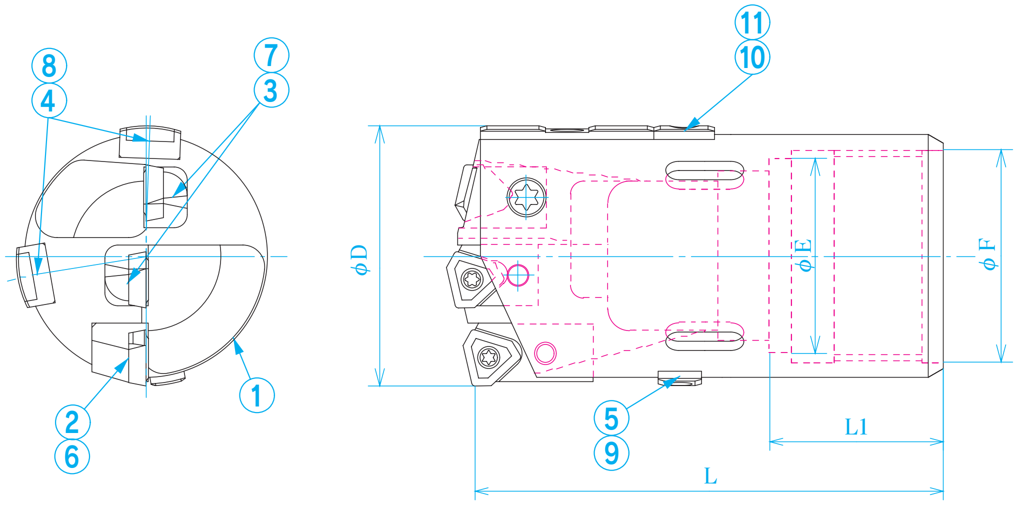
※ Heads larger than 92mm have an extra guide pad pocket with filler. These heads may also be used for counterboring at which time the filler should be replaced by a third guide pad and guide pad protector.

※ Drill heads come complete with: cartridges, guide pads, guide pad protectors, sub guide pads and wrenches - but less inserts. Please see pages 14 - 17 for ordering inserts and spare parts.

Plus(+)spare parts will enlarge drill diameter up to 5mm depending on outer cartridge size.(page 18 for details)

Unitac Part No.	Diameter (mm)	Dimensions (mm)			
		L	C	d1	d2
KUSTS24E-xxx.xx	169.00 - 171.99	250	122	143	149
KUSTS25E-xxx.xx	172.00 - 183.99	250	122	155	161
KUSTS26E-xxx.xx	184.00 - 195.99	270	142	167	173
KUSTS27E-xxx.xx	196.00 - 207.99	270	142	179	185
KUSTS28E-xxx.xx	208.00 - 219.99	270	142	191	197
KUSTS29E-xxx.xx	220.00 - 231.99	290	162	201	208
KUSTS30E-xxx.xx	232.00 - 243.99	290	162	213	220

Drill Tube	
Part No.	Dia(mm)
ST24	154
ST25	166
ST26	178
ST27	190
ST28	202
ST29	214
ST30	226



① Head Shank ② Outer Cartridge ③ Inner & Center Cartridge ④ Guide Pad ⑤ Sub Guide Pad
⑥ Lock Screw ⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Guide Pad Protector ⑪ Lock Screw

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Plus(+)spare parts will enlarge drill diameter up to 5mm depending on outer cartridge size.(page 18 for details)

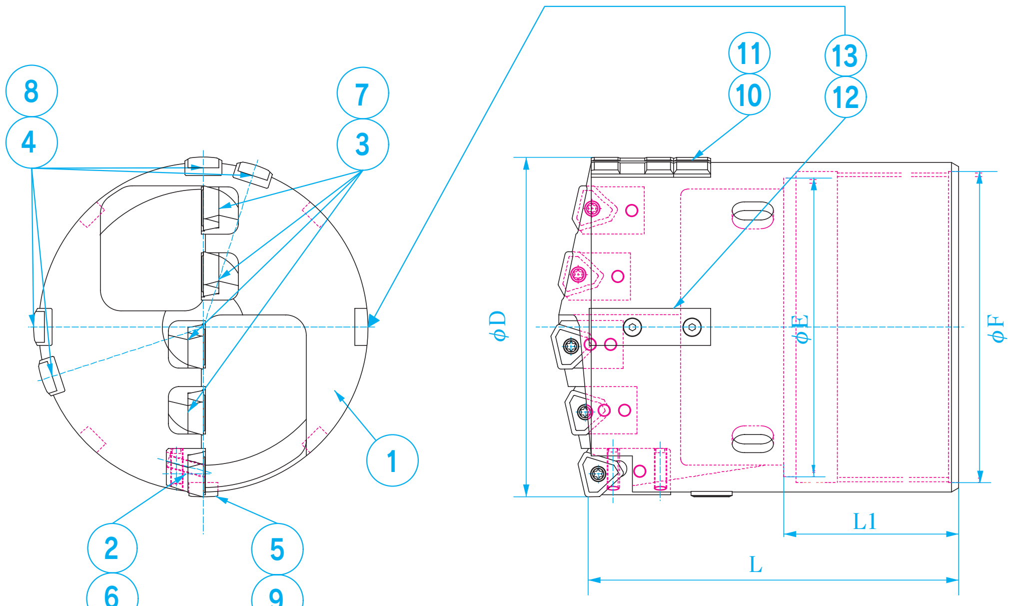
Unitac Part No.	Diameter (mm)	Dimensions (mm)			
		L	L1	E	F
KUSTS33 - xx.xx	38.00 - 39.99	80	40	27	30
KUSTS36 - xx.xx	40.00 - 43.99	80	40	30	33
KUSTS39 - xx.xx	44.00 - 46.99	90	40	34	37
KUSTS43 - xx.xx	47.00 - 51.99	90	40	37	41
KUSTS47 - xx.xx	52.00 - 56.99	100	40	40	44
KUSTS51 - xx.xx	57.00 - 60.99	110	40	45	49
KUSTS56 - xx.xx	61.00 - 67.99	110	40	49	53
KUSTS62 - xx.xx	68.00 - 74.99	120	40	54	59
KUSTS68 - xx.xx	75.00 - 80.99	150	70	60	65
KUSTS75 - xx.xx	81.00 - 90.99	150	70	66	71
KUSTS82 - xx.xx	91.00 - 98.99	150	70	74	79
KUSTS94 - xxx.xx	99.00 - 106.99	150	70	85	90

Drill Tube	
Part No.	Dia(mm)
UB33	33
UB36	36
UB39	39
UB43	43
UB47	47
UB51	51
UB56	56
UB62	62
UB68	68
UB75	75
UB82	82
UB94	94

UNITAC

UNIDEX 5 CARTRIDGE TYPE

INNER SINGLE START THREAD



① Head Shank ② Outer Cartridge ③ Inner & Center Cartridge ④ Guide Pad ⑤ Sub Guide Pad ⑥ Lock Screw ⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Guide Pad Protector ⑪ Lock Screw ⑫ Filler ⑬ Lock Screw

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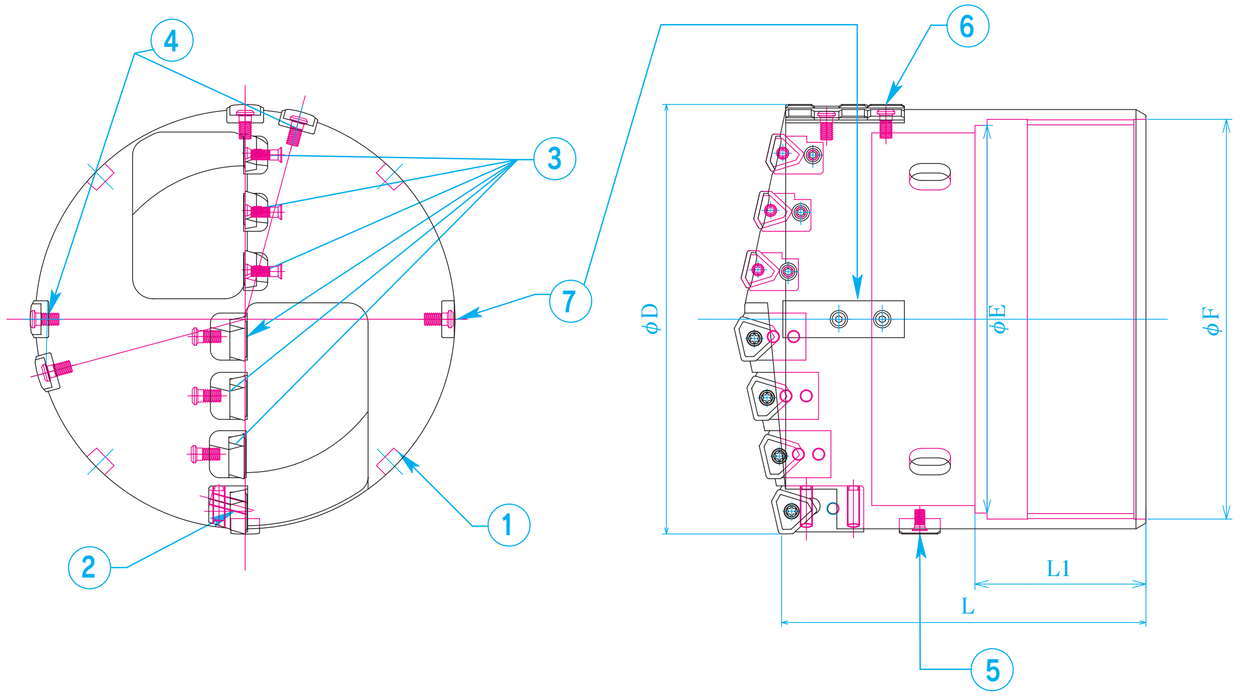
Plus(+)spare parts will enlarge drill diameter up to 5mm depending on outer cartridge size.(page 18 for details)

Unitac Part No.	Diameter (mm)	Dimensions (mm)			
		L	L1	E	F
KUSTS94 - xxx.xx	107.00 - 110.99	150	70	85	90
KUSTS106 - xxx.xx	111.00 - 122.99	150	70	97	102
KUSTS118 - xxx.xx	123.00 - 134.99	150	70	109	114
KUSTS130 - xxx.xx	135.00 - 148.99	150	70	121	126
KUSTS142 - xxx.xx	149.00 - 161.99	150	70	134	139
KUSTS154 - xxx.xx	162.00 - 168.99	190	85	145	151

Drill Tube	
Part No.	Dia(mm)
UB94	94
UB106	106
UB118	118
UB130	130
UB142	142
UB154	154



① Head Shank ② Outer Cartridge&Lock Screw ③ Inner & Center Cartridge&Lock Screw ④ Guide Pad&Lock Screw
⑤ Sub Guide Pad&Lock Screw ⑥Guide Pad Protector&Lock Screw ⑦ Filler&Lock Screw

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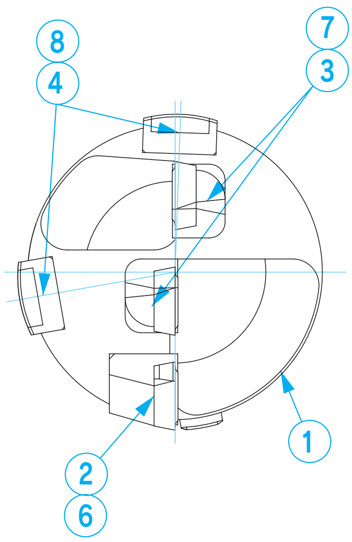
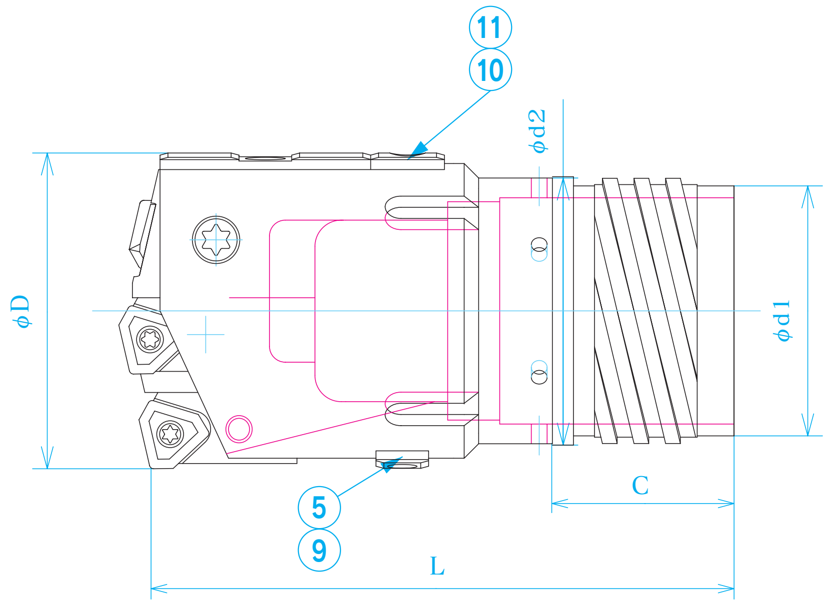
Unitac Part No.	Diameter (mm)	Dimensions (mm)			
		L	L1	E	F
KUSTS154-xxx.xx	169.00-173.99	190	85	145	151
KUSTS166-xxx.xx	174.00-185.99	190	85	157	163
KUSTS178-xxx.xx	186.00-197.99	190	85	169	175
KUSTS190-xxx.xx	198.00-209.99	190	85	181	187
KUSTS202-xxx.xx	210.00-221.99	190	85	193	199
KUSTS214-xxx.xx	222.00-233.99	190	85	205	211
KUSTS226-xxx.xx	234.00-245.99	190	85	217	223

Drill Tube	
Part No.	Dia(mm)
UB154	154
UB166	166
UB178	178
UB190	190
UB202	202
UB214	214
UB226	226

UNIDEX 3 CARTRIDGE TYPE

OUTER FOUR START THREAD





① Head Shank ② Outer Cartridge ③ Inner & Center Cartridge ④ Guide Pad ⑤ Sub Guide Pad ⑥ Lock Screw ⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Guide Pad Protector ⑪ Lock Screw

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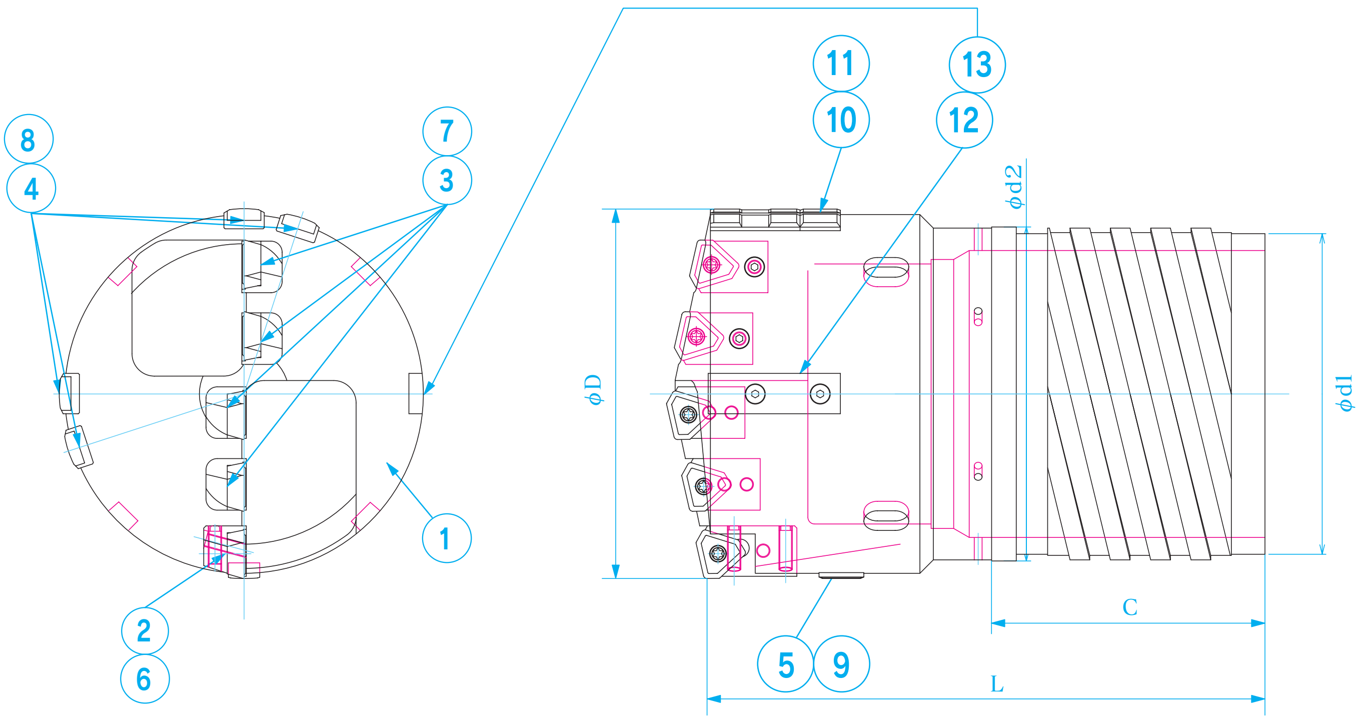
Unitac Part No.	Diameter (mm)	Dimensions (mm)			
		L	C	d1	d2
KUDTS08E - xx.xx	38.00 - 39.60	85	30.5	30	33
KUDTS09E - xx.xx	39.61 - 43.00	85	30.5	33	36
KUDTS10E - xx.xx	43.01 - 47.00	95	30.5	36	39
KUDTS11E - xx.xx	47.01 - 51.70	95	34.5	39.5	43
KUDTS12E - xx.xx	51.71 - 56.20	100	34.5	43.5	47
KUDTS13E - xx.xx	56.21 - 65.00	110	34.5	47.5	51
KUDTS14E - xx.xx	65.01 - 66.99	150	62	47	52
KUDTS15E - xx.xx	67.00 - 72.99	150	62	53	58
KUDTS16E - xx.xx	73.00 - 79.99	150	62	58	63
KUDTS17E - xx.xx	80.00 - 86.99	180	82	64	70
KUDTS18E - xx.xx	87.00 - 99.99	180	82	71	77
KUDTS19E - xxx.xx	100.00 - 106.99	180	82	82	89

Drill Tube	
Part No.	Dia(mm)
OT08	35.5
OT09	39
OT10	42.5
OT11	46.5
OT12	51
OT13	55.5
OT14	56
OT15	62
OT16	68
OT17	75
OT18	82
OT19	94

UNIDEX 5 CARTRIDGE TYPE

OUTER FOUR START THREAD



① Head Shank ② Outer Cartridge ③ Inner & Center Cartridge ④ Guide Pad ⑤ Sub Guide Pad ⑥ Lock Screw
⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Guide Pad Protector ⑪ Lock Screw ⑫ Filler ⑬ Lock Screw

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KUDTS21E - xxx.xx	124.00 - 135.99	205	102	107	113
KUDTS22E - xxx.xx	136.00 - 147.99	205	102	119	125
KUDTS23E - xxx.xx	148.00 - 159.99	225	122	131	137
KUDTS24E - xxx.xx	160.00 - 171.99	225	122	143	149

Drill Tube	
Part No.	Dia(mm)
OT19	94
OT20	106
OT21	118
OT22	130
OT23	142
OT24	154

Unidex Spare Parts CHART

Drill Diameter (mm)	Cartridges						Guide Pads		
	qty	Outer Adjust Screw Lock Screw	Wrench	qty	Inner & Center Lock Screw	Wrench	qty	Guide Pad Lock Screw Filler Lock Screw	Wrench
38.00 - 39.99	1	OZ05R		2	IOZ05R		2	UG08CD	
	1	AS0003-5	H1.5	2	CSTB3	T-9D	2	CSTB3S	T-9D
	1	LS1803RH	H2						
40.00 - 44.99	1	OZ402-04		2	IOZ05R		2	UG08CD	
	2	AS0004-8	H2	2	CSTB3	T-9D	2	CSTB3S	T-9D
	1	LS1803.5RH	H2.5						
45.00 - 47.99	1	OZ402-04		1	IOZ05R		2	UG10CD	
	2	AS0004-8	H2	1	IOZ402-04		2	CSTB4S	T-15D
	1	LS1803.5RH	H2.5	1	CSTB3	T-9D			
				1	CSTB3.5	T-15D			
48.00 - 51.99	1	OZ402-04		2	IOZ402-04		2	UG10CD	
	2	AS0004-8	H2	2	CSTB3.5	T-15D	2	CSTB4S	T-15D
	1	LS1803.5RH	H2.5						
52.00 - 54.99	1	OZ402-32		2	IOZ402-04		2	UG10CD	
	2	AS0005-10	H2.5	2	CSTB3.5	T-15D	2	CSTB4S	T-15D
	1	LS1805RH	H3						
55.00 - 57.99	1	OZ402-32		1	IOZ402-04		2	UG10CD	
	2	AS0005-10	H2.5	1	IOZ402-32		2	CSTB4S	T-15D
	1	LS1805RH	H3	1	CSTB3.5	T-15D			
				1	CSTA5	T-15D			
58.00 - 59.99	1	OZ402-32		2	IOZ402-32		2	UG10CD	
	2	AS0005-10	H2.5	2	CSTA5	T-15D	2	CSTB4S	T-15D
	1	LS1805RH	H3						
60.00 - 63.99	1	OZ402-32		2	IOZ402-32		2	UG14CD	
	2	AS0005-10	H2.5	2	CSTA5	T-15D	2	CSTA5S	T-15D
	1	LS1805RH	H3						
64.00 - 67.99	1	OZ402-43		2	IOZ402-32		2	UG14CD	
	2	AS0005-15	H2.5	2	CSTA5	T-15D	2	CSTA5S	T-15D
	1	LS1806RH	H4						
68.00 - 77.99	1	OZ402-32		2	IOZ402-43		2	UG14CD	
	2	AS0005-10	H2.5	2	LS1206	H3	2	CSTA5S	T-15D
	1	LS1805RH	H3						
78.00 - 84.99	1	OZ402-43		2	IOZ402-43		2	UG14CD	
	2	AS0005-15	H2.5	2	LS1206	H3	2	CSTA5S	T-15D
	1	LS1806RH	H4						
85.00 - 91.99	1	OZ402-63		2	IOZ402-43		2	UG14CD	
	2	AS0006-15	H3	2	LS1206	H3	2	CSTA5S	T-15D
	1	LS1806RH	H4						
92.00 - 98.99	1	OZ402-43		2	IOZ402-63		2	UG14CD	
	2	AS0005-15	H2.5	1	LS1206	H3	2	CSTA5S	T-15D
	1	LS1806RH	H4	1	LS1206S		1	FILLER14	
							1	CSTA5S	
99.00 - 106.99	1	OZ402-63		2	IOZ402-63		2	UG18CD	
	2	AS0006-15	H3	2	LS1206	H3	2	LS1206S	H3
	1	LS1806RH	H4				1	FL18-M	
							1	LS1206S	
107.00 - 117.99	1	OZ402-43		3	IOZ402-32		2	UG18CD	
	2	AS0005-15	H2.5	1	IOZ402-43		2	LS1206S	H3
	1	LS1806RH	H4	3	CSTA5	T-15D	1	FL18-M	
				1	LS1206	H3	1	LS1206S	

※Other carbide grades are available for guide pads upon reguest.

Sub Guide Pads and Protectors						Inserts					
qty	Guide Pad Protector Lock Screw	Wrench	qty	Sub Guide Pads Lock Screw	Wrench	qty	Outer Insert Screw	Wrench	qty	Inner & Center Insert Screw	Wrench
2	GPT08		1	CUG08		1	508-05		2	508-05	
2	CSTB3S	T-9D	1	CSTB3S	T-9D	1	CSTB2.2	T-7D	2	CSTB2.2	T-7D
2	GPT08		1	CUG08		1	1123-04		2	508-05	
2	CSTB3S	T-9D	1	CSTB3S	T-9D	1	CSTB2.5	T-8D	2	CSTB2.2	T-7D
2	GPT10		1	CUG08		1	1123-04		1	508-05	
2	CSTB4S	T-15D	1	CSTB3S	T-9D	1	CSTB2.5	T-8D	1	1123-04	
									1	CSTB2.2	T-7D
									1	CSTB2.5	T-8D
2	GPT10		1	CUG08		1	1123-04		2	1123-04	
2	CSTB4S	T-15D	1	CSTB3S	T-9D	1	CSTB2.5	T-8D	2	CSTB2.5	T-8D
2	GPT10		1	CUG08		1	1123-32		2	1123-04	
2	CSTB4S	T-15D	1	CSTB3S	T-9D	1	CSTB3.5D	T-9D	2	CSTB2.5	T-8D
2	GPT10		1	CUG08		1	1123-32		1	1123-04	
2	CSTB4S	T-15D	1	CSTB3S	T-9D	1	CSTB3.5D	T-9D	1	1123-32	
									1	CSTB2.5	T-8D
									1	CSTB3.5D	T-9D
2	GPT10		1	CUG08		1	1123-32		2	1123-32	
2	CSTB4S	T-15D	1	CSTB3S	T-9D	1	CSTB3.5D	T-9D	2	CSTB3.5D	T-9D
2	GPT14		1	CUG08		1	1123-32		2	1123-32	
2	CSTA5S	T-15D	1	CSTB3S	T-9D	1	CSTB3.5D	T-9D	2	CSTB3.5D	T-9D
2	GPT14		1	CUG10		1	1123-43		2	1123-32	
2	CSTA5S	T-15D	1	CSTB3S	T-9D	1	CSTB4M	T-15D	2	CSTB3.5D	T-9D
2	GPT14		1	CUG10		1	1123-32		2	1123-43	
2	CSTA5S	T-15D	1	CSTB3S	T-9D	1	CSTB3.5D	T-9D	2	CSTB4M	T-15D
2	GPT14		1	CUG10		1	1123-43		2	1123-43	
2	CSTA5S	T-15D	1	CSTB3S	T-9D	1	CSTB4M	T-15D	2	CSTB4M	T-15D
2	GPT14		1	CUG10		1	1123-63		2	1123-43	
2	CSTA5S	T-15D	1	CSTB3S	T-9D	1	CSTB5	T-20D	2	CSTB4M	T-15D
2	GPT14		1	CUG10		1	1123-43		2	1123-63	
2	CSTA5S	T-15D	1	CSTB3S	T-9D	1	CSTB4M	T-15D	2	CSTB5	T-20D
2	GPT18-M		1	CUG14-M		1	1123-63		2	1123-63	
2	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	2	CSTB5	T-20D
2	GPT18-M		1	CUG14-M		1	1123-43		3	1123-32	
2	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	1	1123-43	
									3	CSTB3.5D	T-9D
									1	CSTB4M	T-15D

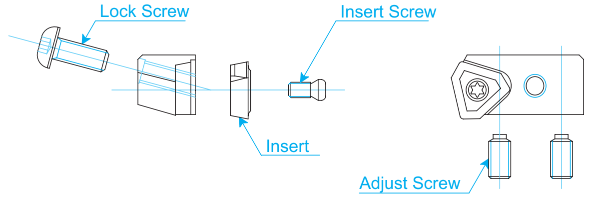
Unidex Spare Parts CHART

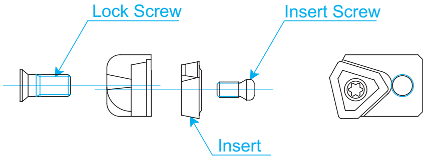
Drill Diameter (mm)	Cartridges						Guide Pads		
	qty	Outer Adjust Screw Lock Screw	Wrench	qty	Inner & Center Lock Screw	Wrench	qty	Guide Pad Lock Screw Filler Lock Screw	Wrench
118.00 - 135.99	1	OZ402-43		4	IOZ402-43		2	UG18CD	
	2	AS0005-15	H2.5	4	LS1206	H3	2	LS1206S	H3
	1	LS1806RH	H4				1	FL18-M	
							1	LS1206S	H3
136.00 - 144.99	1	OZ402-43		3	IOZ402-43		4	UG18CD	
				1	IOZ402-63		4	LS1206S	H3
	2	AS0005-15	H2.5	3	LS1206	H3	1	FL18-M	
	1	LS1806RH	H4	1	LS1206	H3	1	LS1206S	H3
145.00 - 150.99	1	OZ402-43		2	IOZ402-43		4	UG18CD	
	2	AS0005-15	H2.5	2	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	2	LS1206	H3	1	FL18-M	
				2	LS1206	H3	1	LS1206S	H3
151.00 - 156.99	1	OZ402-63		2	IOZ402-43		4	UG18CD	
	2	AS0006-15	H3	2	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	2	LS1206	H3	1	FL18-M	
				2	LS1206	H3	1	LS1206S	H3
157.00 - 162.99	1	OZ402-63		1	IOZ402-43		4	UG18CD	
	2	AS0006-15	H3	3	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	1	LS1206	H3	1	FL18-M	
				3	LS1206	H3	1	LS1206S	H3
163.00 - 168.99	1	OZ402-63		4	IOZ402-63		4	UG18CD	
	2	AS0006-15	H3	4	LS1206	H3	4	LS1206S	H3
	1	LS1806RH	H4				1	FL18-M	
							1	LS1206S	H3
169.00 - 188.99	1	OZ402-43		6	IOZ402-43		4	UG18CD	
	2	AS0005-15	H2.5	6	LS1206	H3	4	LS1206S	H3
	1	LS1806RH	H4				1	FL18-M	
							1	LS1206S	H3
189.00 - 196.99	1	OZ402-43		5	IOZ402-43		4	UG18CD	
	2	AS0005-15	H2.5	1	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	5	LS1206	H3	1	FL18-M	
				1	LS1206	H3	1	LS1206S	H3
197.00 - 202.99	1	OZ402-43		4	IOZ402-43		4	UG18CD	
	2	AS0005-15	H2.5	2	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	4	LS1206	H3	1	FL18-M	
				2	LS1206	H3	1	LS1206S	H3
203.00 - 208.99	1	OZ402-43		3	IOZ402-43		4	UG18CD	
	2	AS0005-15	H2.5	3	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	3	LS1206	H3	1	FL18-M	
				3	LS1206	H3	1	LS1206S	H3
209.00 - 214.99	1	OZ402-63		3	IOZ402-43		4	UG18CD	
	2	AS0006-15	H3	3	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	3	LS1206	H3	1	FL18-M	
				3	LS1206	H3	1	LS1206S	H3
215.00 - 220.99	1	OZ402-63		2	IOZ402-43		4	UG18CD	
	2	AS0006-15	H3	4	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	2	LS1206	H3	1	FL18-M	
				4	LS1206		1	LS1206S	H3
221.00 - 226.99	1	OZ402-63		1	IOZ402-43		4	UG18CD	
	2	AS0006-15	H3	5	IOZ402-63		4	LS1206S	H3
	1	LS1806RH	H4	1	LS1206	H3	1	FL18-M	
				5	LS1206	H3	1	LS1206S	H3

※Other carbide grades are available for guide pads upon reguest.

Sub Guide Pads and Protectors						Inserts					
qty	Guide Pad Protector Lock Screw	Wrench	qty	Sub Guide Pads Lock Screw	Wrench	qty	Outer Insert Screw	Wrench	qty	Inner & Center Insert Screw	Wrench
2	GPT18-M		1	CUG14-M		1	1123-43		4	1123-43	
2	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	4	CSTB4M	T-15D
4	GPT18-M		1	CUG14-M		1	1123-43		3	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	1	1123-63	
									3	CSTB4M	T-15D
									1	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-43		2	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	2	1123-63	
									2	CSTB4M	T-15D
									2	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-63		2	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	2	1123-63	
									2	CSTB4M	T-15D
									2	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-63		1	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	3	1123-63	
									1	CSTB4M	T-15D
									3	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-63		4	1123-63	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	4	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-43		6	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	6	CSTB4M	T-15D
4	GPT18-M		1	CUG14-M		1	1123-43		5	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	1	1123-63	
									5	CSTB4M	T-15D
									1	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-43		4	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	2	1123-63	
									4	CSTB4M	T-15D
									2	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-43		3	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB4M	T-15D	3	1123-63	
									3	CSTB4M	T-15D
									3	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-63		3	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	3	1123-63	
									3	CSTB4M	T-15D
									3	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-63		2	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	4	1123-63	
									2	CSTB4M	T-15D
									4	CSTB5	T-20D
4	GPT18-M		1	CUG14-M		1	1123-63		1	1123-43	
4	LS1206S	H3	1	CSTA5S	T-15D	1	CSTB5	T-20D	5	1123-63	
									1	CSTB4M	T-15D
									5	CSTB5	T-20D

Unidex Spare Parts

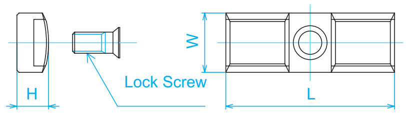




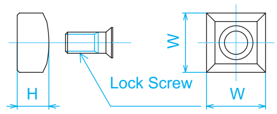
Ordering example ： OZ402 - 04 10pcs

Cartridge	Insert	Insert Screw (wrench)	Adjust Screw (wrench)	Lock Screw (wrench)
OZ05R	508-05	CSTB2.2 (T-7D)	AS0003-5 (H1.5)	LS1803RH (H2)
OZ402-04	1123-04	CSTB2.5 (T-8D)	AS0004-8 (H2)	LS1803.5RH (H2.5)
OZ402-32	1123-32	CSTB3.5D (T-9D)	AS0005-10 (H2.5)	LS1805RH (H3)
OZ402-43	1123-43	CSTB4M (T-15D)	AS0005-15 (H2.5)	L1806RH (H4)
OZ402-63	1123-63	CSTB5 (T-20D)	AS0006-15 (H3)	L1806RH (H4)
Inner&Center				
IOZ05R	508-05	CSTB2.2 (T-7D)		CSTB3 (T-9)
IOZ402-04	1123-04	CSTB2.5 (T-8D)		CSTB3.5 (T-15)
IOZ402-32	1123-32	CSTB3.5D (T-9D)		CSTA5 (T-15)
IOZ402-43	1123-43	CSTB4M (T-15D)		LS1206 (H3)
IOZ402-63	1123-63	CSTB5 (T-20D)		LS1206 (H3)

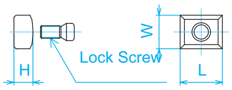
Guide Pad



Guide Pad Protector



Sub Guide Pad



『PATENT NO. 2118367』

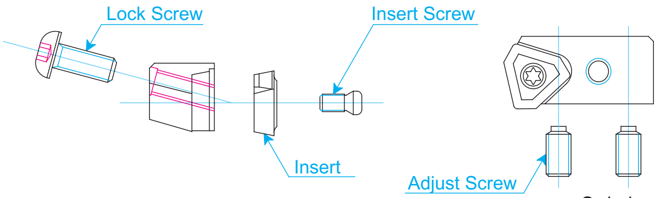
Guide Pad	Dimensions W	Dimensions H	Dimensions L	Lock Screw (wrench)	Guide Pad Protector	Lock Screw (wrench)
UG08CD	8	4.5	25	CSTB3S (T-9D)	GPT08	CSTB3S (T-9D)
UG10CD	10	6	35	CSTB4S (T-15D)	GPT10	CSTB4S (T-15D)
UG14CD	14	7.5	40	CSTA5S (T-15D)	GPT14	CSTA5S (T-15D)
UG18CD	18	9	40	LS1206S (H3)	GPT18-M	LS1206S (H3)
Sub Guide						
CUG08	8	4.5	10	CSTB3S (T-9D)		
CUG10	10	5	10	CSTB3S (T-9D)		
CUG14-M	14	7	20	CSTA5S (T-15D)		

Ceramic Guide Pads Available

※Other carbide grades and ceramic are available for guide pads upon request.

PLUS SPARE PARTS One drill head can drill multiple size holes up to 5mm larger than the smallest hole you need to drill. Enlargement potential determined by drills outer cartridge.

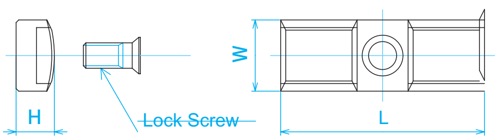
Cartridge



Ordering example ： OZ402 - 04 +2 10pcs

Cartridge	Plus(+)Outer Cartridge +1mm	+2mm	+3mm	+4mm	+5mm
OZ05R	OZ05R+1	OZ05R+2			
OZ402-04	OZ402-04+1	OZ402-04+2	OZ402-04+3		
OZ402-32	OZ402-32+1	OZ402-32+2	OZ402-32+3	OZ402-32+4	OZ402-32+5
OZ402-43	OZ402-43+1	OZ402-43+2	OZ402-43+3	OZ402-43+4	OZ402-43+5
OZ402-63	OZ402-63+1	OZ402-63+2	OZ402-63+3	OZ402-63+4	OZ402-63+5

Guide Pad



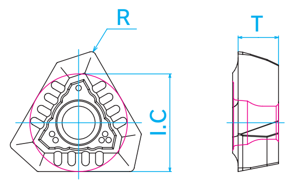
Ordering example ： UG08+2CD 10pcs

Guide Pad	Plus(+)Guide +1mm	+2mm	+3mm	+4mm	+5mm
UG08CD	UG08+1CD	UG08+2CD	UG08+3CD		
UG10CD	UG10+1CD	UG10+2CD	UG10+3CD	UG10+4CD	
UG14CD	UG14+1CD	UG14+2CD	UG14+3CD	UG14+4CD	UG14+5CD
UG18CD	UG18+1CD	UG18+2CD	UG18+3CD	UG18+4CD	UG18+5CD

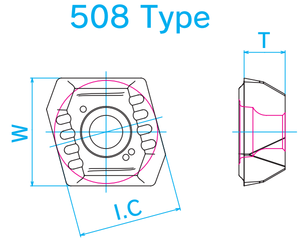
UNITAC OFFERS A WIDE RANGE OF INSERTS TO MEET YOUR CUTTING APPLICATIONS.

1) 3D INSERTS - 3D chip breaker offers excellent chip control under various cutting conditions.

1123 Type



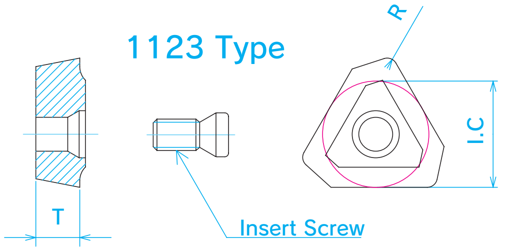
508 Type



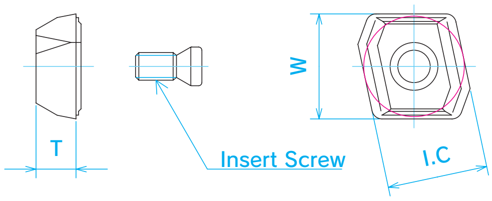
Insert	Dimensions				Insert Screw (wrench)		Corresponding Cartridge	
	I.C	T	R	W				
508 - 05RBR1	8.0	3.18	0.4	8.362	CSTB2.2	(T-7D)	OZ05R	IOZ05R
1123-04RBR1	8.45	3.5	0.4	-	CSTB2.5	(T-8D)	OZ402-04	IOZ402-04
1123-32RBR1	10.3	4.0	0.4	-	CSTB3.5D	(T-9D)	OZ402-32	IOZ402-32
1123-43RBR1	14.2	5.5	0.4	-	CSTB4M	(T-15D)	OZ402-43	IOZ402-43
1123-63RBR1	17.0	7.5	0.8	-	CSTB5	(T-20D)	OZ402-63	IOZ402-63

2) STANDARD INSERTS - Good chip control for most materials.

1123 Type



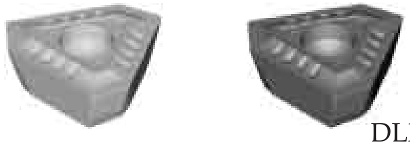
508 Type



『PATENT NO. 2702061』

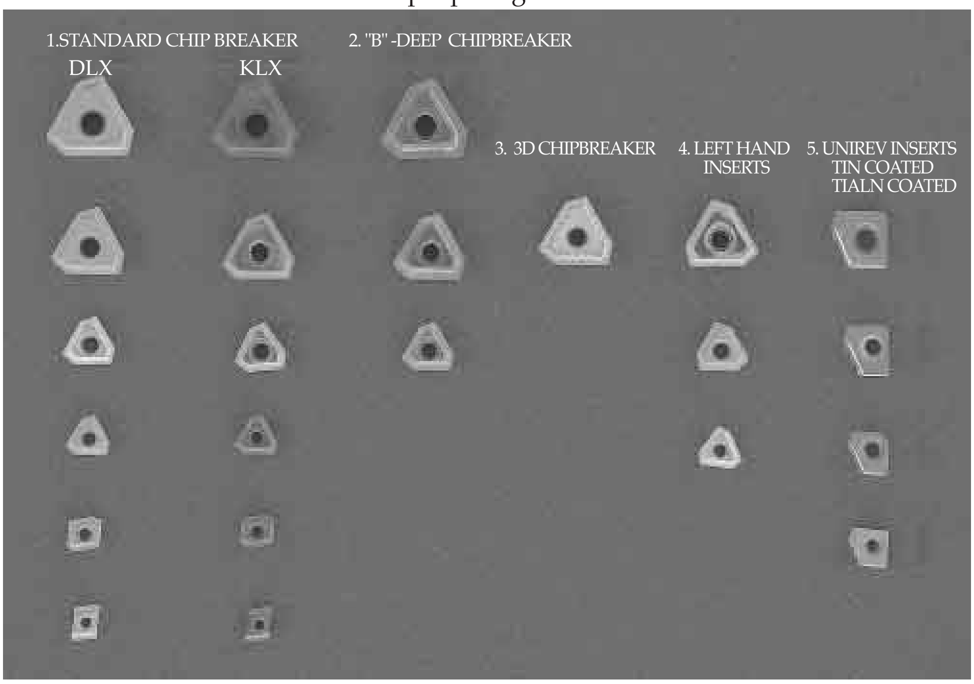
Insert	Dimensions				Insert Screw (wrench)		Corresponding Cartridge	
	I.C	T	R	W				
508 - 05	8.0	3.18	-	8.362	CSTB2.2	(T-7D)	OZ05R	IOZ05R
1123-04	8.45	3.5	0.8	-	CSTB2.5	(T-8D)	OZ402-04	IOZ402-04
1123-32	10.3	4.0	0.8	-	CSTB3.5D	(T-9D)	OZ402-32	IOZ402-32
1123-43	14.2	5.5	1.2	-	CSTB4M	(T-15D)	OZ402-43	IOZ402-43
1123-63	17.0	7.5	1.6	-	CSTB5	(T-20D)	OZ402-63	IOZ402-63

DLX KLX



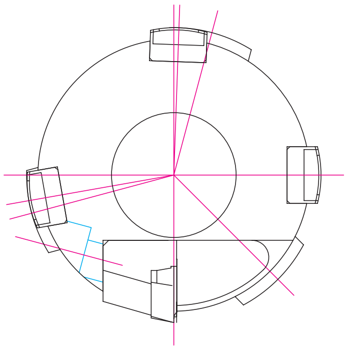
DLX KLX

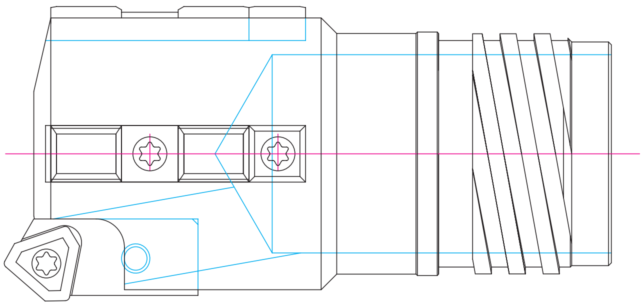
DLX - All purpose grade
KLX - All purpose grade, excellent for high temperature alloys.
NLX - All purpose grade



※All inserts except 5. UNIREV INSERTS now available in DLX,KLX and NLX.
※The available grades for unirev inserts are D-T, D-TA, K-T and K-TA.

INDEXABLE REAMING HEAD

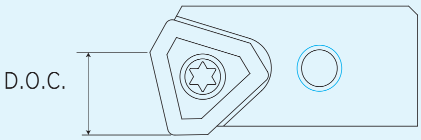




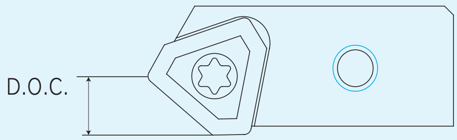
- Indexable coated inserts
- Insert margin to eliminate scarring upon traverse
- Ream a very precise hole up to H6～H8 under optimum cutting conditions with excellent surface finish

Reaming & Counterboring Cartridges

Normal tolerance
(Large depth of cut)



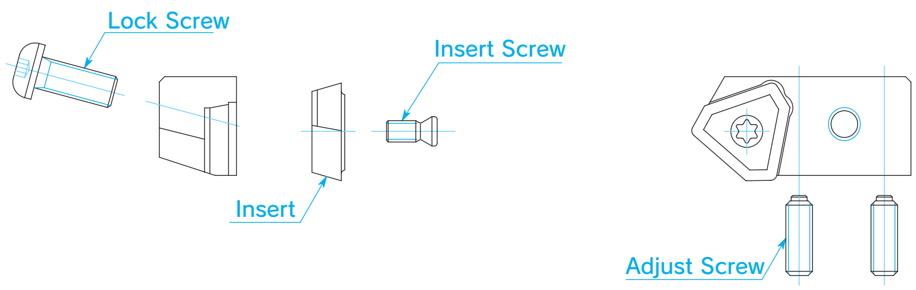
Close tolerance



(Per Side)		(Per Side)	
D.O.C. = 8MM	OZ402-04	D.O.C. = 5MM	OX04R
D.O.C. = 9MM	OZ402-32	D.O.C. = 6MM	OX32R
D.O.C. = 13MM	OZ402-43	D.O.C. = 8MM	OX43R
D.O.C. = 15MM	OZ402-63	D.O.C. = 9.5MM	OX63R

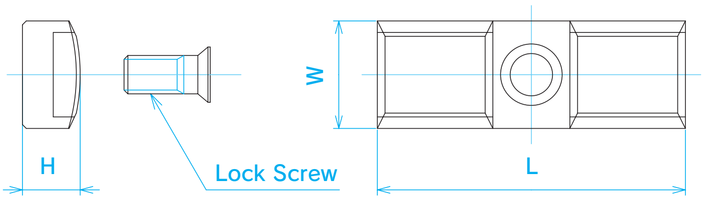
OZ402 and OX type cartridges are interchangable in the same pockets.

Reaming Head Spare Parts



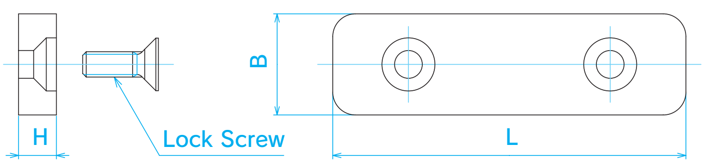
Part NO.	Insert	Insert Screw (wrench)	Adjust Screw (wrench)	Lock screw (wrench)
OX04R	1123-04L	CSTB2.5 (T-8D)	AS0004-8 (H2)	LS1803.5RH (H2.5)
OX32R	1123-32L	CSTB3.5D (T-9D)	AS0005-10 (H2.5)	LS1805RH (H3)
OX43R	1123-43L	CSTB4M (T-15D)	AS0005-15 (H2.5)	LS1806RH (H4)
OX63R	1123-63L	CSTB5 (T-20D)	AS0006-15 (H3)	LS1806RH (H4)

Part NO.	Dimensions			Lock Screw (wrench)	Corresponding Cartridge
	I.C	T	W		
IIS160-45	–	2.7	9.5	CSTA3 (T-9D)	–
1123-04L	8.45	3.5	–	CSTB2.5 (T-9D)	OX04R
1123-32L	10.3	3.4	–	CSTB3.5D (T-9D)	OX32R
1123-43L	14.2	5.5	–	CSTB4M (T-15D)	OX43R
1123-63L	17.0	7.5	–	CSTB5 (T-20D)	OX63R



Part NO.	Dimensions			Lock Screw (wrench)	Corresponding Diameter (mm)
	W	H	L		
UG08-120CD	8	4.4	25	CSTB3S (T-9D)	25.00 - 29.99
UG08-140CD	8	3.5	25	CSTB3S (T-9D)	30.00 - 37.99
UG08CD	8	4.5	25	CSTB3S (T-9D)	38.00 - 45.99
UG10CD	10	6	35	CSTB4S (T-15D)	46.00 - 59.99
UG14CD	14	7.5	40	CSTA5S (T-15D)	60.00 - 99.99
UG18CD	18	9	40	LS1206S (H3)	100.00 - 122.99

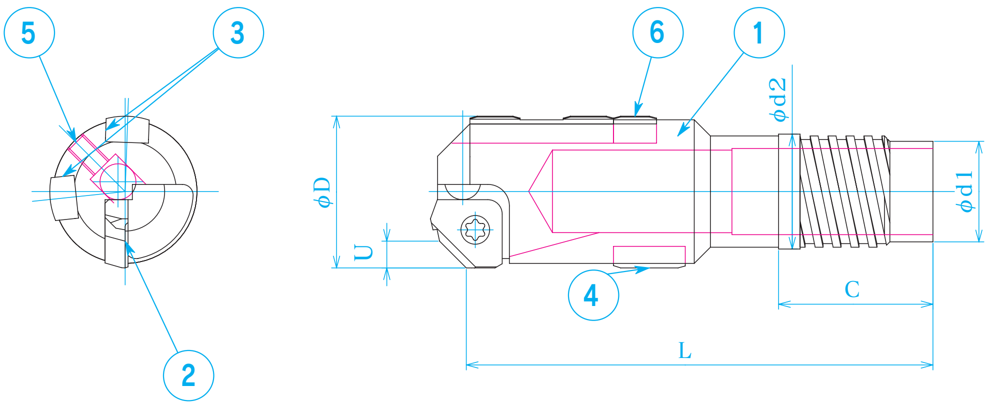
※Other carbide grades and ceramic are available for guide pads upon request.



Part NO.	Dimensions			Lock Screw (wrench)	Corresponding Diameter (mm)
	B	H	L		
RRG10	10	4	40	LS0902.5-6 (plus +)	25.00 - 29.99
RRG12	12	5	45	LS0903 - 8 (H2)	30.00 - 36.99
RRG15	15	5.8	50	LS0904-10 (H2.5)	37.00 - 56.99
RRG20	20	7.5	70	LS0905-12 (H3)	57.00 - 80.99
RRG30	30	12.5	80	LS0906-15 (H4)	81.00 - 90.99
RRG35	35	15.5	100	LS0906-15 (H4)	91.00 - 122.99

INDEXABLE REAMING HEAD

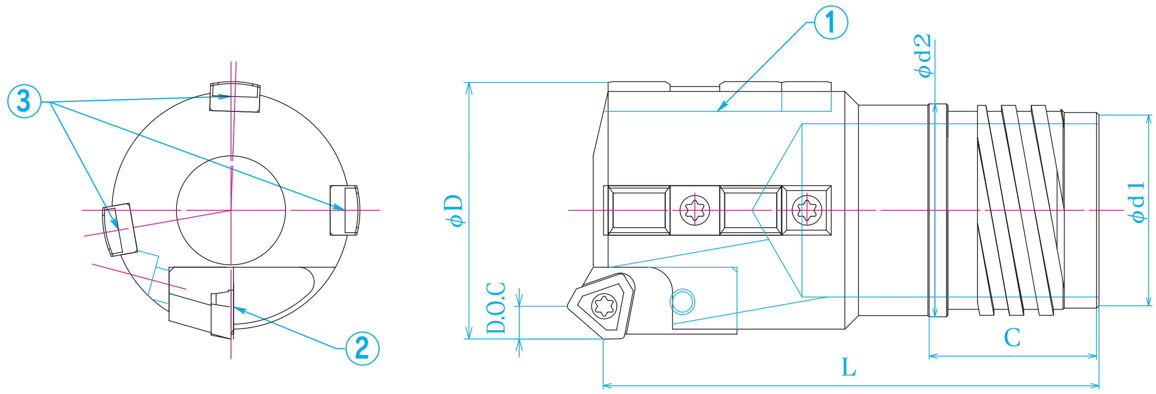
OUTER FOUR START THREAD



① Head Shank ② Insert & Insert Screw ③ Guide pad & Lock Screw ④ Sub guide pad & Lock Screw ⑤ Adjust screw & ball
⑥ Guide pad protector

	Unitac Part NO.	Diameter (mm)	D.O.C (mm)	Dimensions (mm)			
				L	C	d1	d2
DIAMETER 25mm+	KUSTR02E-xx.xx	25.00 - 26.40	3.5	70	21.5	17.5	19.5
	KUSTR03E-xx.xx	26.41 - 28.70	3.5	70	21.5	19	21
	KUSTR04E-xx.xx	28.71 - 31.00	3.5	75	24.5	21	23.5
	KUSTR05E-xx.xx	31.01 - 33.30	3.5	75	24.5	23	25.5
	KUSTR06E-xx.xx	33.31 - 36.20	3.5	75	24.5	25.5	28
	KUSTR07E-xx.xx	36.21 - 39.60	3.5	90	30.5	27	30
	KUSTR08E-xx.xx	39.61 - 39.99	3.5	90	30.5	30	33

Drill Tube	
Part No.	Dia(mm)
ST02	22
ST03	24
ST04	26
ST05	28
ST06	30
ST07	33
ST08	36



① Head Shank ② Cartridge & Lock Screw ③ Guide pad、Guide pad Protector & Insert Screw

	Unitac Part NO.	Diameter (mm)	D.O.C(mm) per side		Dimensions (mm)			
			OZ	OX	L	C	d1	d2
DIAMETER 40mm+	KUSTR08E-xx.xx	40.00 - 43.00	8	5	90	30.5	30	33
	KUSTR09E-xx.xx	43.01 - 47.00	8	5	95	30.5	33	36
	KUSTR10E-xx.xx	47.01 - 51.70	8	5	100	30.5	36	39
	KUSTR11E-xx.xx	51.71 - 56.20	8/9	5/6	100	34.5	39.5	43
	KUSTR12E-xx.xx	56.21 - 60.60	9	6	105	34.5	43.5	47
	KUSTR13E-xx.xx	60.61 - 65.00	9	6	110	34.5	47.5	51
	KUSTR14E-xx.xx	65.00 - 66.99	9	6	150	62	47	52
	KUSTR15E-xx.xx	67.00 - 72.99	13	8	150	62	53	58
	KUSTR16E-xx.xx	73.00 - 79.99	13	8	150	62	58	63
	KUSTR17E-xx.xx	80.00 - 86.99	13	8	180	82	64	70
	KUSTR18E-xx.xx	87.00 - 99.99	13	8	180	82	71	77

Drill Tube	
Part No.	Dia(mm)
ST08	36
ST09	39
ST10	43
ST11	47
ST12	51
ST13	56
ST14	56
ST15	62
ST16	68
ST17	75
ST18	82

* LARGER SIZES AVAILABLE UPON REQUEST
* DOUBLE TUBE SYSTEM IS ALSO AVAILABLE UPON REQUEST.

Reaming Head Spare Parts CHART

KUSTR 25.00-122.99 Outer four start thread

＊Up to 39.99mm, the drill diameter is set with adjust screw and ball.

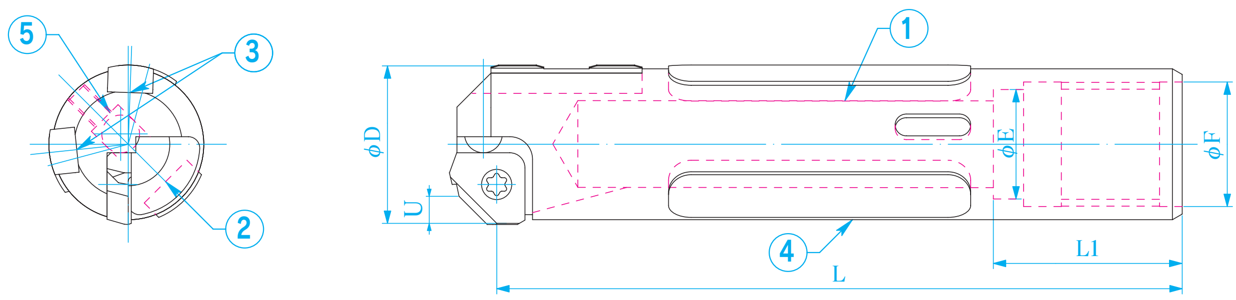
Drill Diameter	Cartridge		Guide Pad	Guide Pad Protector	Sub Guide Pad	Insert	
	Normal tolerance	Close tolerance				Normal tolerance	Close tolerance
	qty Adjust Screw wrench Lock Screw	qty Adjust Screw wrench Lock Screw	qty Lock Screw wrench	qty Lock Screw wrench	qty Lock Screw wrench	qty Insert Screw wrench	qty Insert Screw Adjust Screw Adjust Ball wrench
25.00 - 29.99	———	———	2 UG08-120CD 2 CSTB3S T-9D	3 GPT08 3 CSTB3S T-9D	1 CUG06 1 CSTB2.2S 1 T-7D	———	1 IIS160-45 1 CSTANO3 T-9D 1 AS0005-5 H2.5 1 BALL5
30.00 - 37.99	———	———	2 UG08-140CD 2 CSTB3S T-9D	3 GPT08-140 3 CSTB3S T-9D	1 CUG06 1 CSTB2.2S 1 T-7D	———	1 IS160-45 1 CSTANO3 T-9D 1 AS0005-5 H2.5 1 BALL5
38.00 - 39.99	———	———	2 UG08CD 2 CSTB3S T-9D	3 GPT08 3 CSTB3S T-9D	1 CUG08 1 CSTB3S 1 T-9D	———	1 IIS160-45 1 CSTANO3 T-9D 1 AS0005-5 H2.5 1 BALL5
40.00 - 45.99	1 OZ402-04 2 AS0004-8 H2 1 LS1803.5RH H2.5	1 OX04R 2 AS0004-8 H2 1 LS1803.5RH H2.5	3 UG08CD 3 CSTB3S T-9D	3 GPT08 3 CSTB3S T-9D	1 CUG08 1 CSTB3S 1 T-9D	1 1123-04 1 CSTB2.5 T-8D	1 1123-04L 1 CSTB2.5 T-8D
46.00 - 51.99	1 OZ402-04 2 AS0004-8 H2 1 LS1803.5RH H2.5	1 OX04R 2 AS0004-8 H2 1 LS1803.5RH H2.5	3 UG10CD 3 CSTB4S T-15D	3 GPT10 T-15D 3 CSTB4S	1 CUG08 1 CSTB3S 1 T-9D	1 1123-04 1 CSTB2.5 T-8D	1 1123-04L 1 CSTB2.5 T-8D
52.00 - 59.99	1 OZ402-32 2 AS0005-10 H2.5 1 LS1805RH H3	1 OX32R 2 AS0005-10 H2.5 1 LS1805RH H3	3 UG10CD 3 CSTB4S T-15D	3 GPT10 3 CSTB4S T-15D	1 CUG08 1 CSTB3S 1 T-9D	1 1123-32 1 CSTB3.5D T-9D	1 1123-32L 1 CSTB3.5D T-9D
60.00 - 66.99	1 OZ402-32 2 AS0005-10 H2.5 1 LS1805RH H3	1 OX32R 2 AS0005-10 H2.5 1 LS1805RH H3	3 UG14CD 3 CSTA5S T-15D	3 GPT14 3 CSTA5S T-15D	1 CUG10 1 CSTB3S 1 T-9D	1 1123-32 1 CSTB3.5D T-9D	1 1123-32L 1 CSTB3.5D T-9D
67.00 - 99.99	1 OZ402-43 2 AS0005-15 H2.5 1 LS1806RH H4	1 OX43R 2 AS0005-15 H2.5 1 LS1806RH H4	3 UG14CD 3 CSTA5S T-15D	3 GPT14 3 CSTA5S T-15D	1 CUG10 1 CSTB3S 1 T-9D	1 1123-43 1 CSTB4M T-15D	1 1123-43L 1 CSTB4M T-15D
100.00 - 122.99	1 OZ402-43 2 AS0005-15 H2.5 1 LS1806RH H4	1 OX43R 2 AS0005-15 H2.5 1 LS1806RH H4	3 UG18CD 3 LS1206S H3	3 GPT18-M 3 LS1206S H3	1 CUG14-M 1 CSTA5S 1 T-15D	1 1123-43 1 CSTB4M T-15D	1 1123-43L 1 CSTB4M T-15D

※Other carbide grades are available for guide pads upon request.

UNITAC

INDEXABLE REAMING HEAD

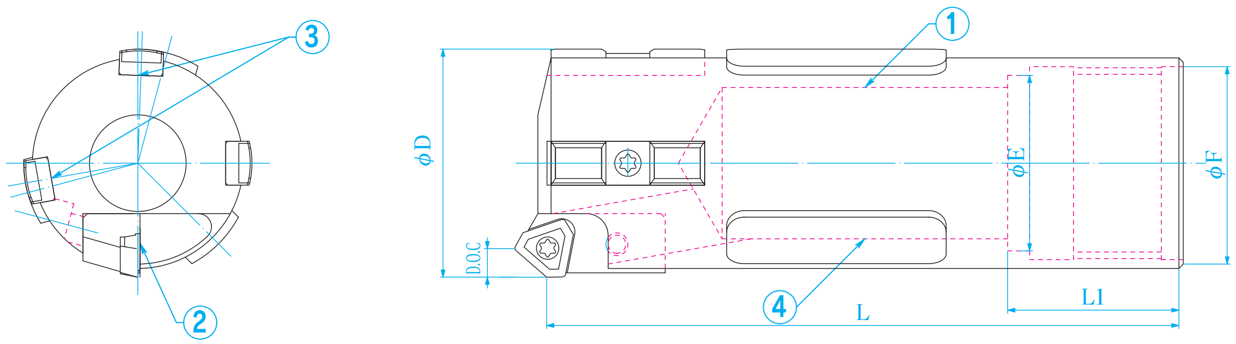
INNER SINGLE START THREAD



① Head Shank ② Insert & Insert Screw ③ Guide pad & Lock Screw ④ Resin Guide Pad & Lock Screw ⑤ Adjust screw & ball

DIAMETER 25mm+

Unitac Part NO.	Diameter (mm)	D.O.C (mm)	Dimensions (mm)				Drill Tube	
			L	L1	E	F	Part No.	Dia(mm)
KUSTR22-xx.xx	25.00-26.99	3.5	110	25	17	20	UB22	22
KUSTR24-xx.xx	27.00-29.99	3.5	110	25	19	22	UB24	24
KUSTR26-xx.xx	30.00-31.99	3.5	110	25	21	24	UB26	26
KUSTR28-xx.xx	32.00-33.99	3.5	110	25	23	26	UB28	28
KUSTR30-xx.xx	34.00-36.99	3.5	135	40	24	27	UB30	30
KUSTR33-xx.xx	37.00-39.99	3.5	135	40	27	30	UB33	33



① Head Shank ② Cartridge & Lock Screw ③ Guide pad ④ Resin Guide Pad & Lock Screw

DIAMETER 40mm+

Unitac Part NO.	Diameter(mm)	D.O.C(mm) per side		Dimensions (mm)				Drill Tube	
		OZ	OX	L	L1	E	F	Part No.	Dia(mm)
KUSTR36-xx.xx	40.00 - 43.99	8	5	135	40	30	33	UB36	36
KUSTR39-xx.xx	44.00 - 46.99	8	5	135	40	34	37	UB39	39
KUSTR43-xx.xx	47.00 - 51.99	8	5	145	40	37	41	UB43	43
KUSTR47-xx.xx	52.00 - 56.99	8/9	5/6	145	40	40	44	UB47	47
KUSTR51-xx.xx	57.00 - 60.99	9	6	170	40	45	49	UB51	51
KUSTR56-xx.xx	61.00 - 67.99	9	6	170	40	49	53	UB56	56
KUSTR62-xx.xx	68.00 - 74.99	9	6	170	40	54	59	UB62	62
KUSTR68-xx.xx	75.00 - 80.99	13	8	205	70	60	65	UB68	68
KUSTR75-xx.xx	81.00 - 90.99	13	8	205	70	66	71	UB75	75
KUSTR82-xx.xx	91.00 - 98.99	13	8	215	70	74	79	UB82	82
KUSTR94-xx.xx	99.00 - 110.99	13	8	225	70	85	90	UB94	94

* LARGER SIZES AVAILABLE UPON REQUEST

Reaming Head Spare Parts CHART

KUSTR 25.00 - 122.99 Inner single start thread

＊Up to 39.99mm, the drill diameter is set with adjust screw and ball.

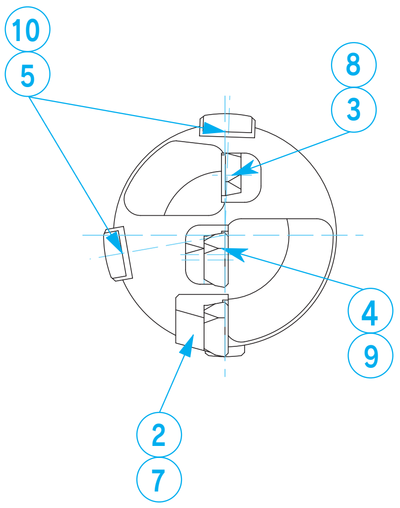
Drill Diameter(mm)	Cartridge						Guide Pad			Resin Guide Pad			Insert					
	Normal tolerance			Close tolerance									Normal tolerance			Close tolerance		
	qty	Adjust Screw Lock Screw	wrench	qty	Adjust Screw Lock Screw	wrench	qty	Lock Screw	wrench	qty	Lock Screw	wrench	qty	Insert Screw	wrench	qty	Insert Screw Adjust Screw Adjust Ball	wrench
25.00 - 29.99		———			———		2 2	UG08-120CD CSTB3S	 T-9D	3 6	RRG10 LS0902.5-6	 +		———		1 1 1 1	IIS160-45 CSTANO3 AS0005-5 BALL5	 T-9D H2.5
30.00 - 36.99		———			———		2 2	UG08-140CD CSTB3S	 T-9D	3 6	RRG12 LS0903-8	 H2		———		1 1 1 1	IIS160-45 CSTANO3 AS0005-5 BALL5	 T-9D H2.5
37.00 - 39.99		———			———		2 2	UG08CD CSTB3S	 T-9D	3 6	RRG15 LS0904-10	 H2.5		———		1 1 1 1	IIS160-45 CSTANO3 AS0005-5 BALL5	 T-9D H2.5
40.00 - 45.99	1 2 1	OZ402-04 AS0004-8 LS1803.5RH	 H2 H2.5	1 2 1	OX04R AS0004-8 LS1803.5RH	 H2 H2.5	3 3	UG08CD CSTB3S	 T-9D	3 6	RRG15 LS0904-10	 H2.5	1 1	1123-04 CSTB2.5	 T-8D	1 1	1123-04L CSTB2.5	 T-8D
46.00 - 51.99	1 2 1	OZ402-04 AS0004-8 LS1803.5RH	 H2 H2.5	1 2 1	OX04R AS0004-8 LS1803.5RH	 H2 H2.5	3 3	UG10CD CSTB4S	 T-15D	3 6	RRG15 LS0904-10	 H2.5	1 1	1123-04 CSTB2.5	 T-8D	1 1	1123-04L CSTB2.5	 T-8D
52.00 - 56.99	1 2 1	OZ402-32 AS0005-10 LS1805RH	 H2.5 H3	1 2 1	OX32R AS0005-10 LS1805RH	 H2.5 H3	3 3	UG10CD CSTB4S	 T-15D	3 6	RRG15 LS0904-10	 H2.5	1 1	1123-32 CSTB3.5D	 T-9D	1 1	1123-32L CSTB3.5D	 T-9D
57.00 - 59.99	1 2 1	OZ402-32 AS0005-10 LS1805RH	 H2.5 H3	1 2 1	OX32R AS0005-10 LS1805RH	 H2.5 H3	3 3	UG10CD CSTB4S	 T-15D	3 6	RRG20 LS0905-12	 H3	1 1	1123-32 CSTB3.5D	 T-9D	1 1	1123-32L CSTB3.5D	 T-9D
60.00 - 66.99	1 2 1	OZ402-32 AS0005-10 LS1805RH	 H2.5 H3	1 2 1	OX32R AS0005-10 LS1805RH	 H2.5 H3	3 3	UG14CD CSTA5S	 T-15D	3 6	RRG20 LS0905-12	 H3	1 1	1123-32 CSTB3.5D	 T-9D	1 1	1123-32L CSTB3.5D	 T-9D
67.00 - 80.99	1 2 1	OZ402-43 AS0005-15 LS1806RH	 H2.5 H4	1 2 1	OX43R AS0005-15 LS1806RH	 H2.5 H4	3 3	UG14CD CSTA5S	 T-15D	3 6	RRG20 LS0905-12	 H3	1 1	1123-43 CSTB4M	 T-15D	1 1	1123-43L CSTB4M	 T-15D
81.00 -90.99	1 2 1	OZ402-43 AS0005-15 LS1806RH	 H2.5 H4	1 2 1	OX43R AS0005-15 LS1806RH	 H2.5 H4	3 3	UG14CD CSTA5S	 T-15D	3 6	RRG30 LS0906-15	 H4	1 1	1123-43 CSTB4M	 T-15D	1 1	1123-43L CSTB4M	 T-15D
91.00 - 99.99	1 2 1	OZ402-43 AS0005-15 LS1806RH	 H2.5 H4	1 2 1	OX43R AS0005-15 LS1806RH	 H2.5 H4	3 3	UG14CD CSTA5S	 T-15D	3 6	RRG35 LS0906-15	 H4	1 1	1123-43 CSTB4M	 T-15D	1 1	1123-43L CSTB4M	 T-15D
100.00 - 122.99	1 2 1	OZ402-43 AS0005-15 LS1806RH	 H2.5 H4	1 2 1	OX43R AS0005-15 LS1806RH	 H2.5 H4	3 3	UG18CD LS1206S	 H3	3 6	RRG35 LS0906-15	 H4	1 1	1123-43 CSTB4M	 T-15D	1 1	1123-43L CSTB4M	 T-15D

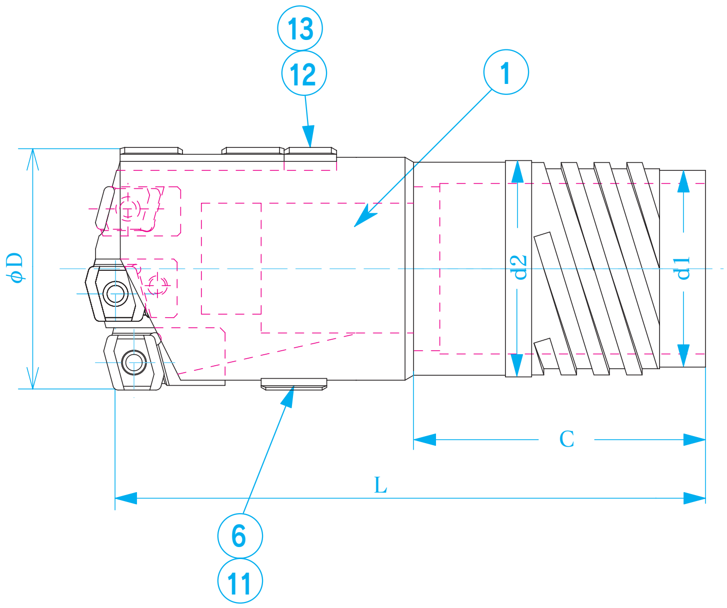
※Other carbide grades are available for guide pads upon request.

UNITAC Member IMC Group

UNIDEX SMALL DIAMETER

OUTER FOUR START THREAD





① Head Shank ② Outer Cartridge ③ Inner Cartridge ④ Center Cartridge ⑤ Guide Pad ⑥ Sub Guide
⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Lock Screw ⑪ Lock Screw ⑫ Guide Pad Protector ⑬ Lock Screw

※ Drill heads come complete with: cartridges, guide pads, guide pad protectors, sub guide and wrenches - but less inserts. Please see below for ordering inserts and spare parts.

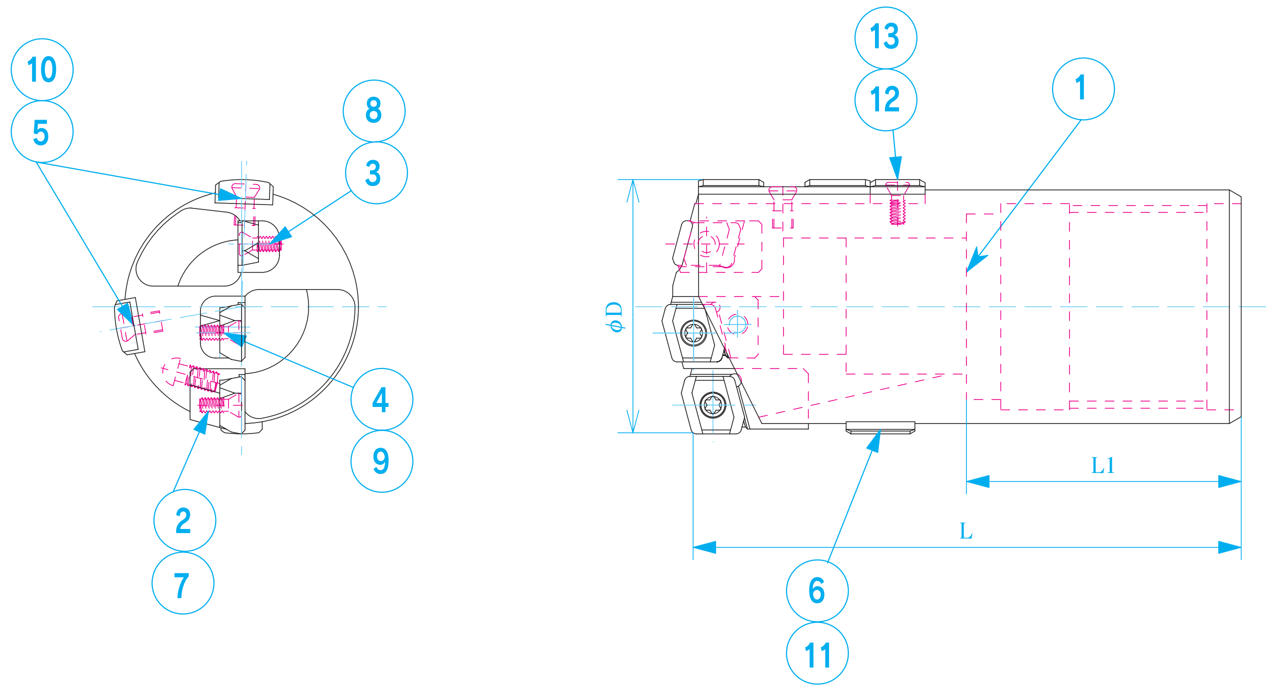
Unitac Part No.	Diameter (mm)	Dimensions(mm)			
		L	C	d1	d2
KUSTS04E-xx.xx	29.00 - 31.00	69	24.5	21	23.5
KUSTS05E-xx.xx	31.01 - 33.30	69	24.5	23	25.5
KUSTS06E-xx.xx	33.31 - 36.20	69	24.5	25.5	28
KUSTS07E-xx.xx	36.21 - 37.99	75	30.5	27	30

Drill Tube	
Part No.	Dia(mm)
ST04	26
ST05	28
ST06	30
ST07	33

Spare Parts List

Drill Diameter (mm)	Cartridge		Guide Pad			Insert	
	Outer qty Adjust Screw key Lock Screw	Inner & Center qty Lock Screw key	Guide Pad qty Lock Screw key	GuidePad Protector qty Lock Screw key	Sub Guide qty Lock Screw key	Outer qty Clamp Screw key	Inner & Center qty Clamp Screw key
29.00 - 33.99	1 OZ06R 2 AS0002.5-5 H1.27 1 CSTB2.5 T-8D	2 IOZ06R 2 CSTB2.5 T-8D	2 UG08-140CD 2 CSTB3S T-9D	2 GPT08-140 2 CSTB3S T-9D	1 CUG06 1 CSTB2.2S T-7D	1 508-06R 1 CSTB2.2 T-7D	2 508-06R 2 CSTB2.2 T-7D
34.00 - 34.99	1 OZ06R 2 AS0002.5-5 H1.27 1 CSTB2.5 T-8D	1 IOZ05R 1 IOZ06R 1 CSTB3 T-9D 1 CSTB2.5 T-8D	2 UG08-140CD 2 CSTB3S T-9D	2 GPT08-140 2 CSTB3S T-9D	1 CUG06 1 CSTB2.2S T-7D	1 508-06R 1 CSTB2.2 T-7D	1 508-05R 1 508-06R 1 CSTB2.2 T-7D 1 CSTB2.2 T-7D
35.00 - 37.99	1 OZ05R 2 AS0003-5 H1.5 1 LS1803RH H2	1 IOZ05R 1 IOZ06R 1 CSTB3 T-9D 1 CSTB2.5 T-8D	2 UG08-140CD 2 CSTB3S T-9D	2 GPT08-140 2 CSTB3S T-9D	1 CUG06 1 CSTB2.2S T-7D	1 508-05R 1 CSTB2.2 T-7D	1 508-05R 1 508-06R 1 CSTB2.2 T-7D 1 CSTB2.2 T-7D

※Other carbide grades are available for guide pads upon request.



① Head Shank ② Outer Cartridge ③ Inner Cartridge ④ Center Cartridge ⑤ Guide Pad ⑥ Sub Guide
⑦ Lock Screw ⑧ Lock Screw ⑨ Lock Screw ⑩ Lock Screw ⑪ Lock Screw ⑫ Guide Pad Protector ⑬ Lock Screw

※ Drill heads come complete with: cartridges, guide pads, guide pad protectors, sub guide and wrenches - but less inserts. Please see below for ordering inserts and spare parts.

Unitac Part No.	Diameters (mm)	Dimensions (mm)	
		L	L1
KUSTS24-xx.xx	29.00 - 29.99	75	25
KUSTS26-xx.xx	30.00 - 31.99	75	25
KUSTS28-xx.xx	32.00 - 33.99	75	25
KUSTS30-xx.xx	34.00 - 36.99	90	40
KUSTS33-xx.xx	37.00 - 37.99	90	40

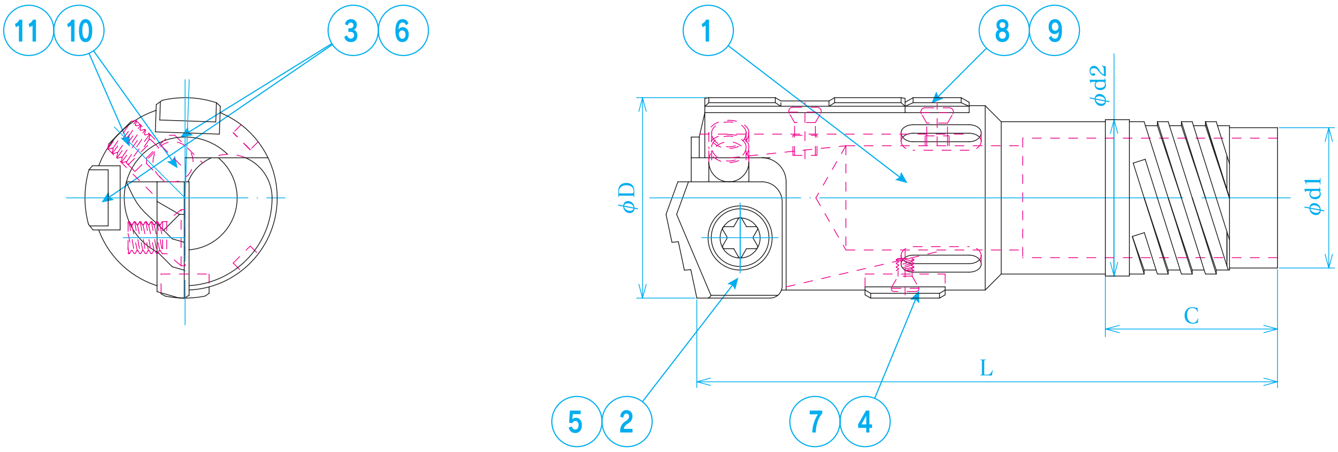
Drill Tube	
Part No.	Dia (mm)
UB24	24
UB26	26
UB28	28
UB30	30
UB33	33

Spare Parts List

Drill Diameter (mm)	Cartridge		Guide Pad			Insert	
	qty Outer Adjust Screw Lock Screw key	qty Inner & Center Lock Screw key	qty Guide Pad Lock Screw key	qty GuidePad Protector Lock Screw key	qty Sub Guide Lock Screw key	qty Outer Clamp Screw key	qty Inner & Center Clamp Screw key
29.00 - 33.99	1 OZ06R 2 AS0002.5-5 H1.27 1 CSTB2.5 T-8D	2 IOZ06R 2 CSTB2.5 T-8D	2 UG08-140CD 2 CSTB3S T-9D	2 GPT08-140 2 CSTB3S T-9D	1 CUG06 1 CSTB2.2S T-7D	1 508-06R 1 CSTB2.2 T-7D	2 508-06R 2 CSTB2.2 T-7D
34.00 - 34.99	1 OZ06R 2 AS0002.5-5 H1.27 1 CSTB2.5 T-8D	1 IOZ05R 1 IOZ06R 1 CSTB3 T-9D 1 CSTB2.5 T-8D	2 UG08-140CD 2 CSTB3S T-9D	2 GPT08-140 2 CSTB3S T-9D	1 CUG06 1 CSTB2.2S T-7D	1 508-06R 1 CSTB2.2 T-7D	1 508-05R 1 508-06R 1 CSTB2.2 T-7D 1 CSTB2.2 T-7D
35.00 - 37.99	1 OZ05R 2 AS0003-5 H1.5 1 LS1803RH H2	1 IOZ05R 1 IOZ06R 1 CSTB3 T-9D 1 CSTB2.5 T-8D	2 UG08-140CD 2 CSTB3S T-9D	2 GPT08-140 2 CSTB3S T-9D	1 CUG06 1 CSTB2.2S T-7D	1 508-05R 1 CSTB2.2 T-7D	1 508-05R 1 508-06R 1 CSTB2.2 T-7D 1 CSTB2.2 T-7D

※Other carbide grades are available for guide pads upon request.

Easy diameter setting with adjust ball and screw. Coated inserts offer excellent tool life.



① Head Shank ② Indexable Insert ③ Guide Pad ④ Sub Guide ⑤ Lock Screw ⑥ Lock Screw ⑦ Lock Screw
⑧ Guide Pad Protector ⑨ Lock Screw ⑩ Adjust Ball ⑪ Adjust Screw

Unitac Part NO.	Diameter (mm)	Dimensions(mm) L	C	d1	d2
KUSTS0097E-xx.xx	16.01 - 16.70	62	20	10.8	12.6
KUSTS0098E-xx.xx	16.71 - 17.70	62	20.5	11.8	13.6
KUSTS0099E-xx.xx	17.71 - 18.90	62	21.5	12.5	14.5
KUSTS0000E-xx.xx	18.91 - 20.00	62	21.5	13.5	15.5
KUSTS00E-xx.xx	20.01 - 21.80	67.5	21.5	14	16
KUSTS01E-xx.xx	21.81 - 24.10	67.5	21.5	16	18
KUSTS02E-xx.xx	24.11 - 26.40	72.5	21.5	17.5	19.5
KUSTS03E-xx.xx	26.41 - 28.50	72.5	21.5	19	21

Drill Tube Part No.	Dia (mm)
ST0097	14
ST0098	15
ST0099	16
ST0000	17
ST00	18
ST01	20
ST02	22
ST03	24

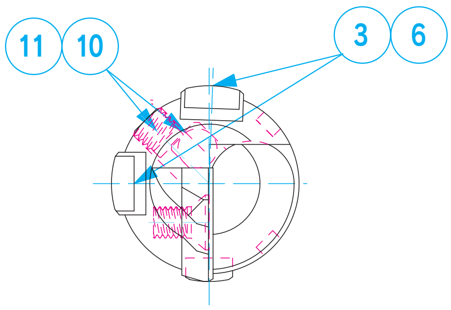
Drill Head Diameter (mm)	Insert: ※ Insert qty		Insert Screw qty		(Wrench)	Adjust Screw qty		(Wrench)	Adjust Ball qty	
16.01 - 18.00	1	IIS160-xx	1	CSTANO3-4.5	(T-9D)	1	AS0002.5-3.5	(H1.27)	1	BALL2.5
18.01 - 21.00	1	IIS180-xx	1	CSTANO5-5.5	(T-9D)	1	AS0003-3.5	(H1.5)	1	BALL3
21.01 - 24.99	1	IIS210-xx	1	CSTANO5-6.5	(T-9D)	1	AS0004-5	(H2)	1	BALL4
25.00 - 28.50	1	IIS250-xx	1	CSTA4-7.5	(T-15D)	1	AS0005-5	(H2.5)	1	BALL5

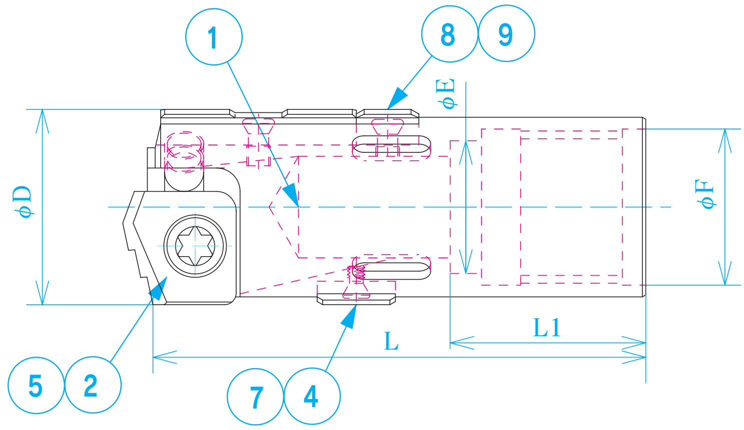
※ Chipbreaker dimension : UB / The available grades for unirev inserts are D-T, D-TA, K-T and K-TA.

Drill Head Diameter (mm)	Guide Pad: Guide pad qty	Guide Pad: Lock Screw (Wrench) qty	Guide Pad Protector: GP Protector qty	Guide Pad Protector: Lock Screw (Wrench) qty	Sub Guide Pad: Sub Guide qty	Sub Guide Pad: Lock Screw (Wrench) qty
16.01-18.00	2 UG06-075CD	2 CSTB2.2S(T-7D)	2 GPT06-075	2 CSTB2.2S (T-7D)	2 CUG06	2 CSTB2.2S (T-7D)
18.01-21.00	2 UG06-085CD	2 CSTB2.2S(T-7D)	2 GPT06-085	2 CSTB2.2S (T-7D)	2 CUG06	2 CSTB2.2S (T-7D)
21.01-24.99	2 UG06-100CD	2 CSTB2.2S(T-7D)	2 GPT06-100	2 CSTB2.2S (T-7D)	2 CUG06	2 CSTB2.2S (T-7D)
25.00-28.50	2 UG08-120CD	2 CSTB3S(T-9D)	2 GPT08-120	2 CSTB3S (T-9D)	2 CUG06	2 CSTB2.2S (T-7D)

※Other carbide grades are available for guide pads upon request.

Easy diameter setting with adjust ball and screw. Coated inserts offer excellent tool life.





① Head Shank ② Indexable Insert ③ Guide Pad ④ Sub Guide ⑤ Lock Screw ⑥ Lock Screw ⑦ Lock Screw
⑧ Guide Pad Protector ⑨ Lock Screw ⑩ Adjust Ball ⑪ Adjust Screw

Unitac Part NO.	Diameter (mm)	Dimensions(mm) L	L1	E	F
KUSTS13-2-xx.xx	16.01 - 16.50	50	22	11.1	12.7
KUSTS14-1-xx.xx	16.51 - 17.25	50	22	11.8	13.4
KUSTS14-2-xx.xx	17.26 - 18.00	50	22	12.1	13.7
KUSTS15-xx.xx	18.01 - 19.00	50	22	12.8	14.4
KUSTS16.5-xx.xx	19.01 - 19.99	50	22	13.8	15.4
KUSTS18-xx.xx	20.00 - 21.99	55	25	14.5	16.5
KUSTS20-xx.xx	22.00 - 24.99	55	25	16	19
KUSTS22-xx.xx	25.00 - 26.99	60	25	17	20
KUSTS24-xx.xx	27.00 - 28.50	60	25	19	22

Drill Tube Part No.	Dia(mm)
UB13-2	13
UB14-1	14
UB14-2	25
UB15	15
UB16.5	16.5
UB18	18
UB20	20
UB22	22
UB24	24

Drill Head Diameter (mm)	Insert: qty	※ Insert	qty	Insert Screw	(Wrench)	qty	Adjust Screw	(Wrench)	qty	Adjust Ball
16.01 - 18.00	1	IIS160-xx	1	CSTANO3-4.5	(T-9D)	1	AS0002.5-3.5	(H1.27)	1	BALL2.5
18.01 - 21.00	1	IIS180-xx	1	CSTANO5-5.5	(T-9D)	1	AS0003-3.5	(H1.5)	1	BALL3
21.01 - 24.99	1	IIS210-xx	1	CSTANO5-6.5	(T-9D)	1	AS0004-5	(H2)	1	BALL4
25.00 - 28.50	1	IIS250-xx	1	CSTA4-7.5	(T-15D)	1	AS0005-5	(H2.5)	1	BALL5

※ Chipbreaker dimension : UB / The available grades for unirev inserts are D-T, D-TA, K-T and K-TA.

Drill Head Diameter (mm)	Guide Pad: qty	Guide pad	qty	Lock Screw(Wrench)	Guide Pad Protector: qty	GP Protector	qty	Lock Screw (Wrench)	Sub Guide Pad: qty	Sub Guide	qty	Lock Screw (Wrench)
16.01-18.00	2	UG06-075CD	2	CSTB2.2S(T-7D)	2	GPT06-075	2	CSTB2.2S (T-7D)	2	CUG06	2	CSTB2.2S (T-7D)
18.01-21.00	2	UG06-085CD	2	CSTB2.2S(T-7D)	2	GPT06-085	2	CSTB2.2S (T-7D)	2	CUG06	2	CSTB2.2S (T-7D)
21.01-24.99	2	UG06-100CD	2	CSTB2.2S(T-7D)	2	GPT06-100	2	CSTB2.2S (T-7D)	2	CUG06	2	CSTB2.2S (T-7D)
25.00-28.50	2	UG08-120CD	2	CSTB3S(T-9D)	2	GPT08-120	2	CSTB3S (T-9D)	2	CUG06	2	CSTB2.2S (T-7D)

※Other carbide grades are available for guide pads upon request.

SINGLE TUBE SYSTEM

= Indexable Style direct mount drill head =

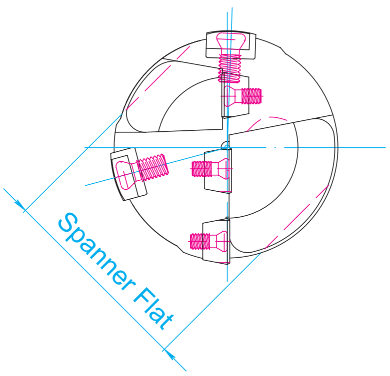
- UNIQUE INSERT DESIGN -

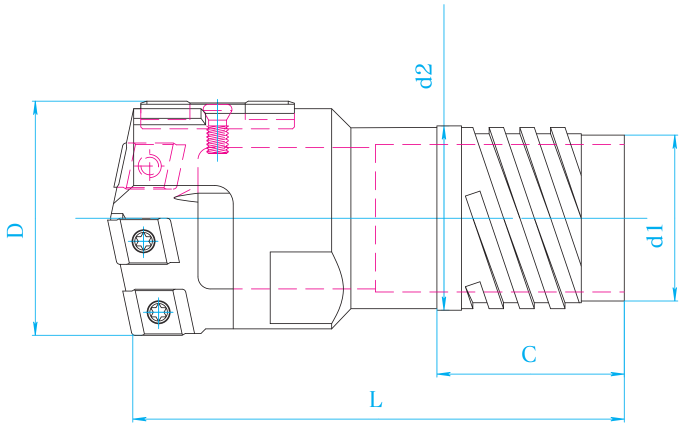
- EASY TO USE AND HANDLE -

- LOW INVENTORY COST

Inserts fit all pockets (outer, inner & center). **No need to differentiate.**
Only 4 inserts required to cover entire drilling range

(25.00mm through 53.20mm).





PATENT PENDING

Unitac Part No.	Diameter D (mm)	Drill Tube Part No.	Drill Tube Dia(mm)	Dimensions (mm) L	C	d1	d2
503-M2-02S-xx.xx	25.00-26.40	ST02	22	65	21.5	17.5	19.5
503-M2-03S-xx.xx	26.41-28.70	ST03	24	⇩	⇩	19.0	21.0
503-M2-04S-xx.xx	28.71-31.00	ST04	26	70	24.5	21.0	23.5
503-M2-05S-xx.xx	31.01-33.30	ST05	28	⇩	⇩	23.0	25.5
503-M2-06S-xx.xx	33.31-36.20	ST06	30	⇩	⇩	25.5	28.0
503-M2-07S-xx.xx	36.21-39.60	ST07	33	75	30.5	27.0	30.0
503-M2-08S-xx.xx	39.61-43.00	ST08	36	80	⇩	30.0	33.0
503-M2-09S-xx.xx	43.01-47.00	ST09	39	90	⇩	33.0	36.0
503-M2-10S-xx.xx	47.01-51.70	ST10	43	⇩	⇩	36.0	39.0
503-M2-11S-xx.xx	51.71-53.20	ST11	47	⇩	34.5	39.5	43.0

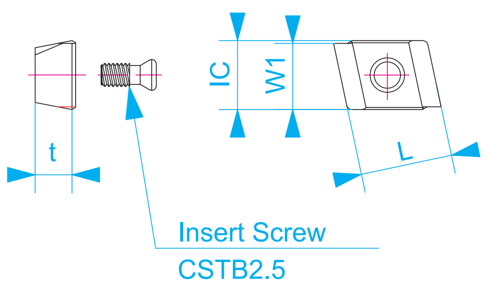
503 INSERT

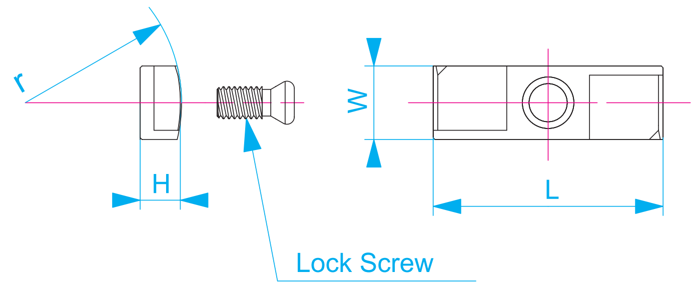
INSERTS FIT ALL POCKETS,
(OUTER,INNER AND CENTER)

FOUR (4) INSERT SIZES COVER
ENTIRE DRILLING RANGE

503 GUIDE PAD

BRAZED CONSTRUCTION TO
MINIMIZE BREAKAGE OF GUIDE PADS.
ACCORDINGLY BETTER PROTECTION
FOR DRILL HEAD BODY.





Part No.	IC	W1	L	t
503-055R	5.5	5.2	10	4
503-065R	6.5	6.2	10	4
503-075R	7.5	7.2	10	4
503-095R	9.5	9.2	10	4

Part No.	W	L	H	r
USG07CDTA	7	20	3.5	12.0
USG08CDTA	8	25	4.5	17.5
USG10CDTA	10	30	4.5	21.5

GRADES

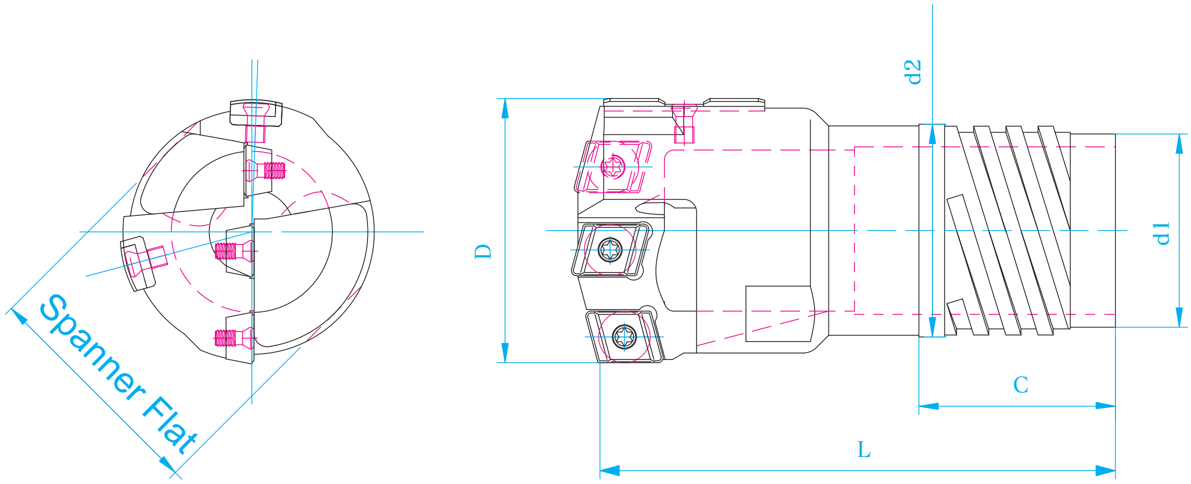
DLX	ALL PURPOSE GRADE
KLX	HEAT RESISTANT ALLOYS
NLX	ALL PURPOSE GRADE

Spare parts list

Diameter D (mm)	Inserts									Guide Pad				
	Qty	Outer	Qty	Inner	Qty	Center	Qty	Screw	Wrench	Qty	Pad	Qty	Screw	Wrench
25.00-26.40	1	503-055R	1	503-055R	1	503-055R	3	CSTB2.5	T-8D	2	USG07CDTA	2	CSTB3S	T-9D
26.41-28.70	1	⇩	1	⇩	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
28.71-31.00	1	503-065R	1	⇩	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
31.01-33.30	1	⇩	1	⇩	1	503-065R	3	⇩	⇩	2	⇩	2	⇩	⇩
33.31-36.20	1	⇩	1	503-065R	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
36.21-38.40	1	503-075R	1	⇩	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
38.41-39.60	1	⇩	1	⇩	1	503-075R	3	⇩	⇩	2	USG08CDTA	2	CSTB3.5	T-15D
39.61-41.80	1	⇩	1	503-075R	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
41.81-43.00	1	503-095R	1	⇩	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
43.01-45.60	1	⇩	1	⇩	1	503-095R	3	⇩	⇩	2	⇩	2	⇩	⇩
45.61-47.00	1	⇩	1	⇩	1	⇩	3	⇩	⇩	2	USG10CDTA	2	⇩	⇩
47.01-51.70	1	⇩	1	503-095R	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩
51.71-53.20	1	⇩	1	⇩	1	⇩	3	⇩	⇩	2	⇩	2	⇩	⇩

SINGLE TUBE SYSTEM

= Indexable Style direct mount drill head =



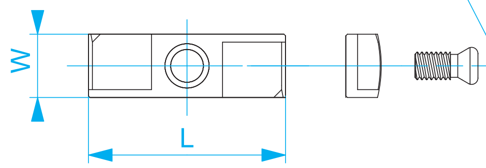
0124 is designed for drilling rough tolerance punch holes(up to ISOH11) and for heavy duty machining.

All inserts are designed and coated using the latest technology for heavy feed rates.

PATENT PENDING

Unitac Part No.	Diameter D(mm)	Drill Tube Part No.	Drill Tube Dia(mm)	Dimensions (mm) L	C	d1	d2
0124-04S-xx.xx	30.00-31.00	ST04	26	70	24.5	21.0	23.5
0124-05S-xx.xx	31.01-33.30	ST05	28	⇩	⇩	23.0	25.5
0124-06S-xx.xx	33.31-36.20	ST06	30	⇩	⇩	25.5	28.0
0124-07S-xx.xx	36.21-39.60	ST07	33	75	30.5	27.0	30.0
0124-08S-xx.xx	39.61-43.00	ST08	36	80	⇩	30.0	33.0
0124-09S-xx.xx	43.01-47.00	ST09	39	90	⇩	33.0	36.0
0124-10S-xx.xx	47.01-51.70	ST10	43	⇩	⇩	36.0	39.0
0124-11S-xx.xx	51.71-56.20	ST11	47	⇩	34.5	39.5	43.0
0124-12S-xx.xx	56.21-60.60	ST12	51	⇩	⇩	43.5	47.0
0124-13S-xx.xx	60.61-65.00	ST13	56	⇩	⇩	47.5	51.0

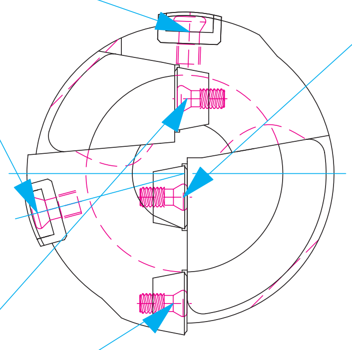
Guide Pad



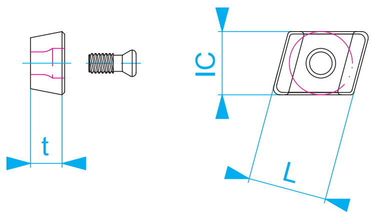
patent pending

Part No.	W	L	H	r
USG07CDTA	7	20	3.5	12.0
USG08CDTA	8	25	4.5	17.5
USG10CDTA	10	30	4.5	21.5
USG12CDTA	12	35	5.5	25.0

Brazed construction guide pads to minimize breakage, giving better protection to the drill head body.



Center Insert



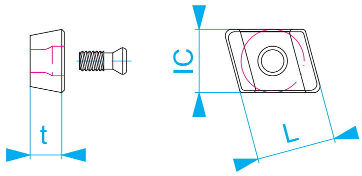
Part No.	IC	L	t
0124HF-06L	6.5	10.0	4.0
0124HF-08L	8.0	10.0	4.0
0124HF-10L	9.5	10.0	4.0
0124HF-12L	12.5	10.0	4.0

HF type available for center insert, in grades DLXT and KLXT only.

Part No.	IC	L	t
0124-06L	6.5	10.0	4.0
0124-08L	8.0	10.0	4.0
0124-10L	9.5	10.0	4.0
0124-12L	12.5	10.0	4.0

For center insert, standard type is also available, in grade NLX only.

Inner & Outer Inserts



Part No.	IC	L	t
0124-06R	6.5	10.0	4.0
0124-08R	8.0	10.0	4.0
0124-10R	9.5	10.0	4.0
0124-12R	12.5	10.0	4.0

Standard : Main recommendation. Special design for excellent chip control.

Part No.	IC	L	t
0124HF-06R	6.5	10.0	4.0
0124HF-08R	8.0	10.0	4.0
0124HF-10R	9.5	10.0	4.0
0124HF-12R	12.5	10.0	4.0

0124HF Style : Design for heavy feed rate. Only available on special request and in grades DLXT and KLXT. May not be in stock.

Grade

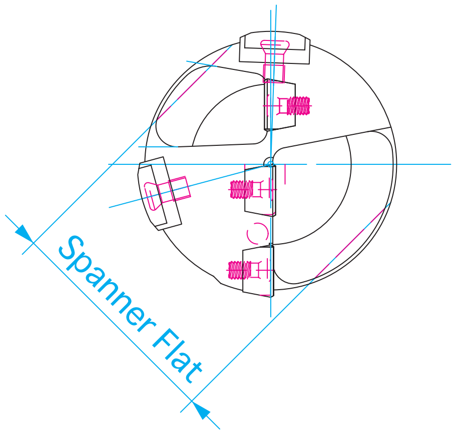
DLXT	All purpose grade
KLXT	Heat resistant alloys
NLX	All purpose grade

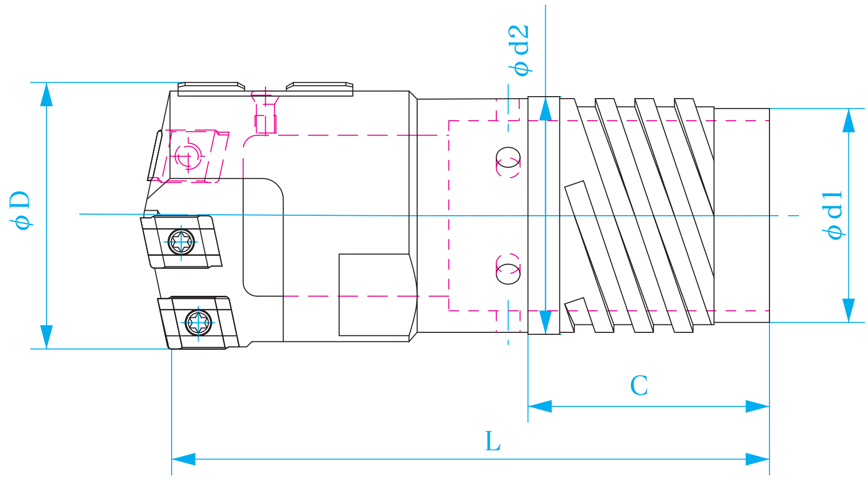
Spare parts list

Diameter D(mm)	Inserts									Guide Pad		
	Center			Inner			Outer					
	Q'ty	Insert Screw	Wrench	Q'ty	Insert Screw	Wrench	Q'ty	Insert Screw	Wrench	Q'ty	Lock Screw	Wrench
30.00-33.00	1 1	0124-06L CSTB2.5	T-8D	1 1	0124-06R CSTB2.5	T-8D	1 1	0124-06R CSTB2.5	T-8D	2 2	USG07CDTA CSTB3S	T-9D
33.01-36.00	1 1	0124-08L CSTB2.5	T-8D	1 1	0124-06R CSTB2.5	T-8D	1 1	0124-06R CSTB2.5	T-8D	2 2	USG07CDTA CSTB3S	T-9D
36.01-39.00	1 1	0124-08L CSTB2.5	T-8D	1 1	0124-06R CSTB2.5	T-8D	1 1	0124-08R CSTB2.5	T-8D	2 2	USG07CDTA CSTB3.5	T-9D
39.01-42.00	1 1	0124-08L CSTB2.5	T-8D	1 1	0124-08R CSTB2.5	T-8D	1 1	0124-08R CSTB2.5	T-8D	2 2	USG08CDTA CSTB3.5	T-15D
42.01-45.00	1 1	0124-10L CSTB2.5	T-8D	1 1	0124-08R CSTB2.5	T-8D	1 1	0124-08R CSTB2.5	T-8D	2 2	USG08CDTA CSTB3.5	T-15D
45.01-48.00	1 1	0124-10L CSTB2.5	T-8D	1 1	0124-08R CSTB2.5	T-8D	1 1	0124-10R CSTB2.5	T-8D	2 2	USG10CDTA CSTB3.5	T-15D
48.01-51.00	1 1	0124-10L CSTB2.5	T-8D	1 1	0124-10R CSTB2.5	T-8D	1 1	0124-10R CSTB2.5	T-8D	2 2	USG10CDTA CSTB3.5	T-15D
51.01-57.00	1 1	0124-12L CSTB2.5	T-8D	1 1	0124-10R CSTB2.5	T-8D	1 1	0124-10R CSTB2.5	T-8D	2 2	USG10CDTA CSTB3.5	T-15D
57.01-63.00	1 1	0124-12L CSTB2.5	T-8D	1 1	0124-10R CSTB2.5	T-8D	1 1	0124-12R CSTB2.5	T-8D	2 2	USG12CDTA CSTB3.5	T-15D
63.01-65.00	1 1	0124-12L CSTB2.5	T-8D	1 1	0124-12R CSTB2.5	T-8D	1 1	0124-12R CSTB2.5	T-8D	2 2	USG12CDTA CSTB3.5	T-15D

DOUBLE TUBE SYSTEM

= Indexable Style direct mount drill head =





- UNIQUE INSERT DESIGN -

- EASY TO USE AND HANDLE -

- LOW INVENTORY COST

Inserts fit all pockets (outer, inner & center). **No need to differentiate.**
Only 4 inserts required to cover entire drilling range
(25.00mm through 53.20mm).

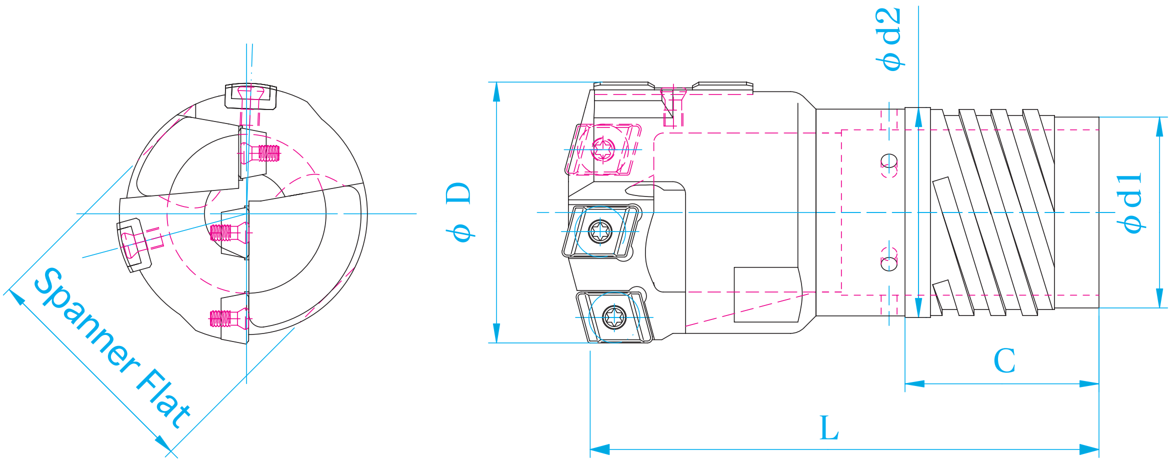
PATENT PENDING

Unitac Part No.	Diameter D(mm)	Drill Tube Part No.	Drill Tube Dia(mm)	Dimensions (mm) L	C	d1	d2
503-M2-03D-xx.xx	25.00-26.40	OT03	23.5	65	21.5	19	21
503-M2-04D-xx.xx	26.41-28.70	OT04	26	70	24.5	21	23.5
503-M2-05D-xx.xx	28.71-31.00	OT05	28	70	24.5	23	25.5
503-M2-06D-xx.xx	31.01-33.30	OT06	30.5	70	24.5	25.5	28
503-M2-07D-xx.xx	33.31-36.20	OT07	33	75	30.5	27	30
503-M2-08D-xx.xx	36.21-38.40	OT08	35.5	75	30.5	30	33
503-M2-08D-xx.xx	38.41-39.60	OT08	35.5	75	30.5	30	33
503-M2-09D-xx.xx	39.61-41.80	OT09	39	80	30.5	33	36
503-M2-09D-xx.xx	41.81-43.00	OT09	39	80	30.5	33	36
503-M2-10D-xx.xx	43.01-45.60	OT10	42.5	90	30.5	36	39
503-M2-10D-xx.xx	45.61-47.00	OT10	42.5	90	30.5	36	39
503-M2-11D-xx.xx	47.01-51.70	OT11	46.5	90	34.5	39.5	43
503-M2-12D-xx.xx	51.71-53.20	OT12	51	90	34.5	43.5	47

See page 31 for Spare Parts

DOUBLE TUBE SYSTEM

= Indexable Style direct mount drill head =



- UNIQUE INSERT DESIGN -

- EASY TO USE AND HANDLE -

- LOW INVENTORY COST

0124 is designed for drilling rough tolerance punch holes(up to ISOH11)
and for heavy duty machining.
All inserts are designed and coated using the latest technology for heavy feed rates.

PATENT PENDING

Unitac Part No.	Diameter D(mm)	Drill Tube Part No.	Drill Tube Dia(mm)	Dimensions (mm) L	C	d1	d2
0124-05D-xx.xx	30.00-31.00	OT05	28	70	24.5	23.0	25.5
0124-06D-xx.xx	31.01-33.30	OT06	30.5	⇩	⇩	25.5	28.0
0124-07D-xx.xx	33.31-36.20	OT07	33	75	30.5	27.0	30.0
0124-08D-xx.xx	36.21-39.60	OT08	35.5	80	⇩	30.0	33.0
0124-09D-xx.xx	39.61-43.00	OT09	39	⇩	⇩	33.0	36.0
0124-10D-xx.xx	43.01-47.00	OT10	42.5	90	⇩	36.0	39.0
0124-11D-xx.xx	47.01-51.70	OT11	46.5	⇩	34.5	39.5	43.0
0124-12D-xx.xx	51.71-56.20	OT12	51	⇩	⇩	43.5	47.0
0124-13D-xx.xx	56.21-65.00	OT13	55.5	⇩	⇩	47.5	51.0

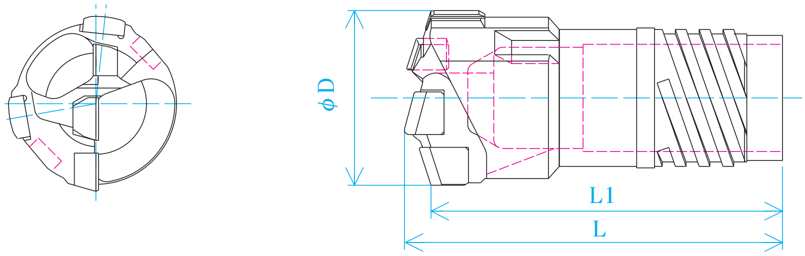
See page 33 for Spare Parts

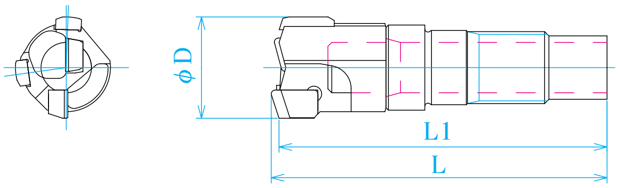
UNITAC

BTU STYLE

OUTER TWO START AND FOUR START THREAD

BTU heads are designed with a pressed chip breaker and OD threaded to fit all STS(Single Tube System) Drill Tubes.





(15.61-65.00mm)

(12.60-15.60mm)

Part No.	Drill Dia (mm)	Dimensions		Drill Tube	
		L	L1	Part No.	Dia
BTU-00941	12.60-13.10	43.0	41.9	ST0094	11
BTU-00942	13.11-13.60	43.0	41.9	ST0094	11
BTU-00951	13.61-14.10	43.0	41.8	ST0095	12
BTU-00952	14.11-14.60	43.0	41.8	ST0095	12
BTU-00961	14.61-15.10	43.0	41.7	ST0096	13
BTU-00962	15.11-15.60	43.0	41.7	ST0096	13
BTU-00971	15.61-16.20	43.0	40.3	ST0097	14
BTU-00972	16.21-16.70	43.0	40.3	ST0097	14
BTU-00981	16.71-17.20	43.0	40.3	ST0098	15
BTU-00982	17.21-17.70	43.0	40.3	ST0098	15
BTU-00991	17.71-18.40	47.0	44.2	ST0099	16
BTU-00992	18.41-18.90	47.0	44.1	ST0099	16
BTU-001	18.91-19.20	47.0	44.1	ST0000	17
BTU-002	19.21-20.00	47.0	44.0	ST0000	17
BTU-011	20.01-20.90	52.5	49.4	ST00	18
BTU-012	20.91-21.80	52.5	49.4	ST00	18
BTU-021	21.81-22.90	56.0	52.8	ST01	20
BTU-022	22.91-24.10	56.0	52.6	ST01	20
BTU-031	24.11-25.20	57.5	54.0	ST02	22
BTU-032	25.21-26.40	57.5	54.0	ST02	22
BTU-041	26.41-27.50	57.5	53.8	ST03	24
BTU-042	27.51-28.70	57.5	53.8	ST03	24
BTU-051	28.71-29.80	63.5	59.5	ST04	26
BTU-052	29.81-31.00	63.5	59.3	ST04	26
BTU-061	31.01-32.10	63.5	59.4	ST05	28

Part No.	Drill Dia (mm)	Dimensions		Drill Tube	
		L	L1	Part No.	Dia
BTU-062	32.11-33-30	63.5	59.1	ST05	28
BTU-071	33.31-34-80	63.5	59.0	ST06	30
BTU-072	34.81-36.20	63.5	58.9	ST06	30
BTU-081	36.21-37.30	73.5	68.7	ST07	33
BTU-082	37.31-38.40	73.5	68.5	ST07	33
BTU-083	38.41-39.60	73.5	68.3	ST07	33
BTU-091	39.61-40.60	73.5	68.2	ST08	36
BTU-092	40.61-41.80	73.5	68.0	ST08	36
BTU-093	41.81-43.00	73.5	67.8	ST08	36
BTU-101	43.01-44.30	75.0	69.5	ST09	39
BTU-102	44.31-45.60	75.0	69.3	ST09	39
BTU-103	45.61-47.00	75.0	69.1	ST09	39
BTU-111	47.01-48.50	75.0	68.8	ST10	43
BTU-112	48.51-50.10	75.0	68.7	ST10	43
BTU-113	50.11-51.70	75.0	68.5	ST10	43
BTU-121	51.71-53.20	82.0	75.2	ST11	47
BTU-122	53.21-54.70	82.0	75.2	ST11	47
BTU-123	54.71-56.20	82.0	75.2	ST11	47
BTU-131	56.21-58.40	84.0	77.4	ST12	51
BTU-132	58.41-60.60	84.0	76.9	ST12	51
BTU-133	60.61-62.80	84.0	76.8	ST12	51
BTU-134	62.81-65.00	84.0	76.5	ST12	51
BTU-133L	60.61-62.80	84.0	76.8	ST13	56
BTU-134L	62.81-65.00	84.0	76.5	ST13	56

*12.60-15.60mm are outer two start thread.

*Main recommendation

GRADE	ISO	PART MATERIAL
UX	P20	CARBON STEEL
*UX-2	M20-P30 M30	ALLOY STEEL STAINLESS
*UW	P10 M10-P15 M15	CARBON STEEL ALLOY STEEL
UP	P15	CARBON STEEL ALLOY STEEL STAINLESS
PF	K10 K20	CAST IRON NON FERROUS
UZ	P40	STAINLESS
T3	–	STAINLESS

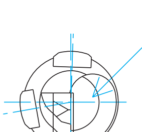
Tin or Tialn coating are available upon request

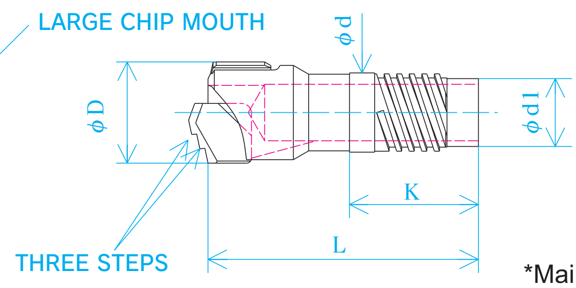
UNITAC

UTE STYLE

OUTER TWO START AND FOUR START THREAD

UTE Drill heads are designed with a three step single cutting edge and OD threaded to fit all STS(Single Tube System) Drill Tubes. Manufactured with standard chip-breaker unless otherwise specified.





The one cutting edge design allows for a large chip mouth to eliminate chip exhaust problems.

Part No.	Drill Dia (mm)	Dimensions				Drill Tube	
		L	K	d	d1	Part No.	Dia (mm)
UTE-0094	12.60-13.60	40	23	9.6	8.2	ST0094	11
UTE-0095	13.61-14.60	40	23	10.6	9.2	ST0095	12
UTE-0096	14.61-15.60	40	22	11.6	10.2	ST0096	13
UTE-0097	15.61-16.70	40	20.5	12.6	10.8	ST0097	14
UTE-0098	16.71-17.70	40	20.5	13.6	11.8	ST0098	15
UTE-0099	17.71-18.90	40	21.5	14.5	12.5	ST0099	16
UTE-0000	18.91-20.00	40	21.5	15.5	13.5	ST0000	17

*12.60-15.60mm are outer two start thread.

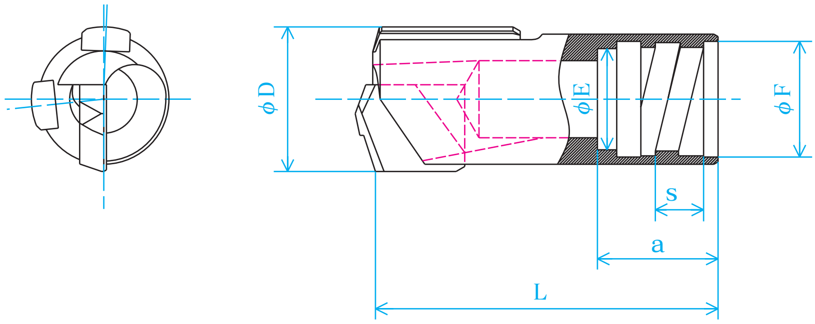
*Main recommendation

GRADE	ISO	PART MATERIAL
*UP	P10 P20	STEEL ALLOY STEEL STAINLESS
*TF	K10 K20	CARBON STEEL ALLOY STEEL STAINLESS
TFKS	K20	CAST IRON HIGH TEMP ALLOYS

TU STYLE

INNER SINGLE START THREAD

Designed with two pilots and ID threaded. The TU is the most commonly used of the STS(Single tube System)Heads. It may be reground several times before discarding.



Part No.	Drill Dia (mm)	L	Dimensions a	E	F	s	Drill Tube Part No.	Dia
TU-150	14.51-15.00	50.0	22	9.9	11.5	6	UB12-1∗	12∗
TU-155	15.01-15.50	50.0	22	10.2	11.8	6	UB12-2∗	12∗
TU-160	15.51-16.00	50.0	22	10.8	12.4	6	UB13-1∗	13∗
TU-165	16.01-16.50	50.0	22	11.1	12.7	6	UB13-2∗	13∗
TU-172	16.51-17.25	50.0	22	11.8	13.4	6	UB14-1∗	14∗
TU-180	17.26-18.00	50.0	22	12.1	13.7	6	UB14-2∗	14∗
TU-190	18.01-19.00	50.0	22	12.8	14.4	6	UB15	15
TU-199	19.01-19.99	50.0	22	13.8	15.4	6	UB16.5	16.5
TU-219	20.00-21.99	59.0	25	14.5	16.5	10	UB18	18
TU-249	22.00-24.99	59.0	25	16	19	10	UB20	20
TU-269	25.00-26.99	66.0	25	17	20	10	UB22	22
TU-299	27.00-29.99	66.0	25	19	22	10	UB24	24
TU-319	30.00-31.99	71.0	25	21	24	10	UB26	26
TU-339	32.00-33.99	81.0	25	23	26	10	UB28	28
TU-369	34.00-36.99	81.0	40	24	27	20	UB30	30
TU-399	37.00-39.99	81.0	40	27	30	20	UB33	33
TU-439	40.00-43.99	81.5	40	30	33	20	UB36	36
TU-469	44.00-46.99	91.5	40	34	37	20	UB39	39
TU-519	47.00-51.99	91.5	40	37	41	20	UB43	43
TU-569	52.00-56.99	91.5	40	40	44	20	UB47	47
TU-609	57.00-60.99	91.5	40	45	49	20	UB51	51
TU-650	61.00-65.00	91.5	40	49	53	20	UB56	56

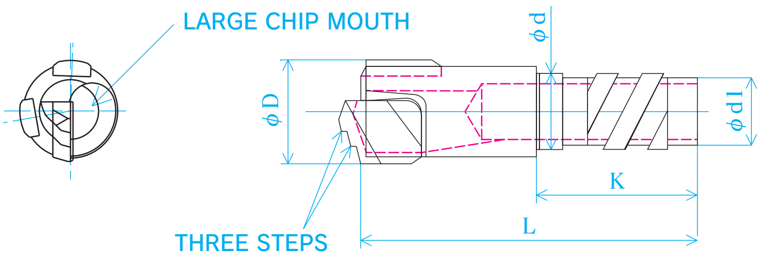
*Main recommendation

GRADE	ISO	PART MATERIAL
*PC	P20 M20	CARBON STEEL ALLOY STEEL
TF	K10 K20 M20	CAST IRON HIGH TEMP ALLOYS

MBU STYLE

OUTER ONE START THREAD

Micro boring heads are designed with pilots and fast-lock OD thread. Head may be reground several times before discarding.



THREE STEPS CUTTING EDGE DESIGN ENSURES EXCELLENT CHIP EXHAUST.

Part No.	Drill Dia (mm)	Dimensions(mm) L	K	d	d1
MBU-0899	8.00-8.99	34	16	6.00	5.40
MBU-0999	9.00-9.99	34	16	7.20	6.30
MBU-1099	10.00-10.99	34	16	7.60	6.70
MBU-1199	11.00-11.99	34	16	8.60	7.70
MBU-1349	12.00-13.49	34	16	9.10	8.20
MBU-1449	13.50-14.79	34	16	10.80	9.40

Part No.	Corresponding Boring Bar
UMBB071	7.1
UMBB083	8.3
UMBB090	9.0
UMBB100	10.0
UMBB110	11.0
UMBB120	12.0

*Main recommendation

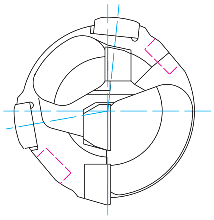
GRADE	ISO	PART MATERIAL
*PC	P15	CARBON STEEL ALLOY STEEL
TF	K10 K20	CAST IRON CARBON ALLOY ALLOY STEEL

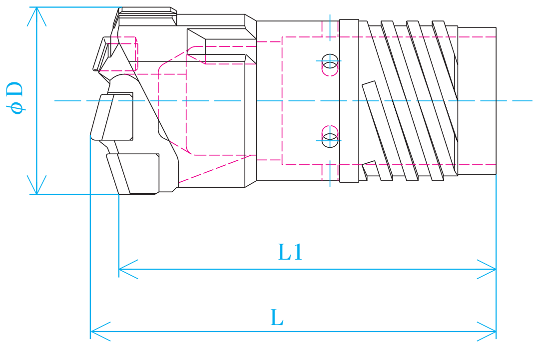
UNITAC

ETU STYLE

OUTER FOUR START THREAD

ETU heads are designed with a pressed chip breaker and OD threaded to fit all DTS(Double Tube System) Drill Tubes.





Part No.	Drill Dia (mm)	Dimensions L	Dimensions L1	Drill Tube Part No.	Drill Tube Dia
ETU-001	18.41-19.20	50.0	47.1	OT00	18.0
ETU-002	19.21-20.00	50.0	47.0	OT00	18.0
ETU-011	20.01-20.90	56.0	52.8	OT01	19.5
ETU-012	20.91-21.80	56.0	52.7	OT01	19.5
ETU-021	21.81-22.90	56.0	52.8	OT02	21.5
ETU-022	22.91-24.10	56.0	52.6	OT02	21.5
ETU-031	24.11-25.20	57.5	54.0	OT03	23.5
ETU-032	25.21-26.40	57.5	54.0	OT03	23.5
ETU-041	26.41-27.50	60.5	56.8	OT04	26.0
ETU-042	27.51-28.70	60.5	56.8	OT04	26.0
ETU-051	28.71-29.80	63.5	59.5	OT05	28.0
ETU-052	29.81-31.00	63.5	59.3	OT05	28.0
ETU-061	31.01-32.10	63.5	59.4	OT06	30.5
ETU-062	32.11-33.30	63.5	59.2	OT06	30.5
ETU-071	33.31-34.80	70.5	66.0	OT07	33.0
ETU-072	34.81-36.20	70.5	65.8	OT07	33.0

Part No.	Drill Dia (mm)	Dimensions L	Dimensions L1	Drill Tube Part No.	Drill Tube Dia
ETU-081	36.21-37.30	73.5	68.7	OT08	35.5
ETU-082	37.31-38.40	73.5	68.5	OT08	35.5
ETU-083	38.41-39.60	73.5	68.3	OT08	35.5
ETU-091	39.61-40.60	73.5	68.2	OT09	39.0
ETU-092	40.61-41.80	73.5	68.0	OT09	39.0
ETU-093	41.81-43.00	73.5	67.9	OT09	39.0
ETU-101	43.01-44.30	75.0	69.5	OT10	42.5
ETU-102	44.31-45.60	75.0	69.3	OT10	42.5
ETU-103	45.61-47.00	75.0	69.1	OT10	42.5
ETU-111	47.01-48.50	79.0	72.9	OT11	46.5
ETU-112	48.51-50.10	79.0	72.8	OT11	46.5
ETU-113	50.11-51.70	79.0	72.5	OT11	46.5
ETU-121	51.71-53.20	82.0	75.3	OT12	51.0
ETU-122	53.21-54.70	82.0	75.5	OT12	51.0
ETU-123	54.71-56.20	82.0	75.3	OT12	51.0
ETU-131	56.21-58.40	84.0	77.4	OT13	55.5
ETU-132	58.41-60.60	84.0	76.9	OT13	55.5
ETU-133	60.61-62.80	84.0	77.0	OT13	55.5
ETU-134	62.81-65.00	84.0	76.6	OT13	55.5

*Main recommendation

GRADE	ISO	PART MATERIAL
UX	P20	CARBON STEEL
*UX-2	M20-P30 M30	ALLOY STEEL STAINLESS
*UW	P10 M10-P15 M15	CARBON STEEL ALLOY STEEL
UP	P15	CARBON STEEL ALLOY STEEL STAINLESS
PF	K10 K20	CAST IRON NON FERROUS
UZ	P40	STAINLESS
T3	–	STAINLESS

Tin or Tialn coating are available upon request

IN ADDITION TO OUR NEW HEADS, WE ALSO OFFER RETIPPING SERVICE.

- Return your used heads and we will retip with new carbide, grade of your choice.
- Quality and performance equal to new heads.
- Savings of up to 40%.

ISO P steel

Recommended for carbon steel and alloy steel.
First choice : UX-2

ISO N aluminum / non-ferrous

For non-ferrous alloys and aluminum PF is the recommended grade.

ISO M stainless steel

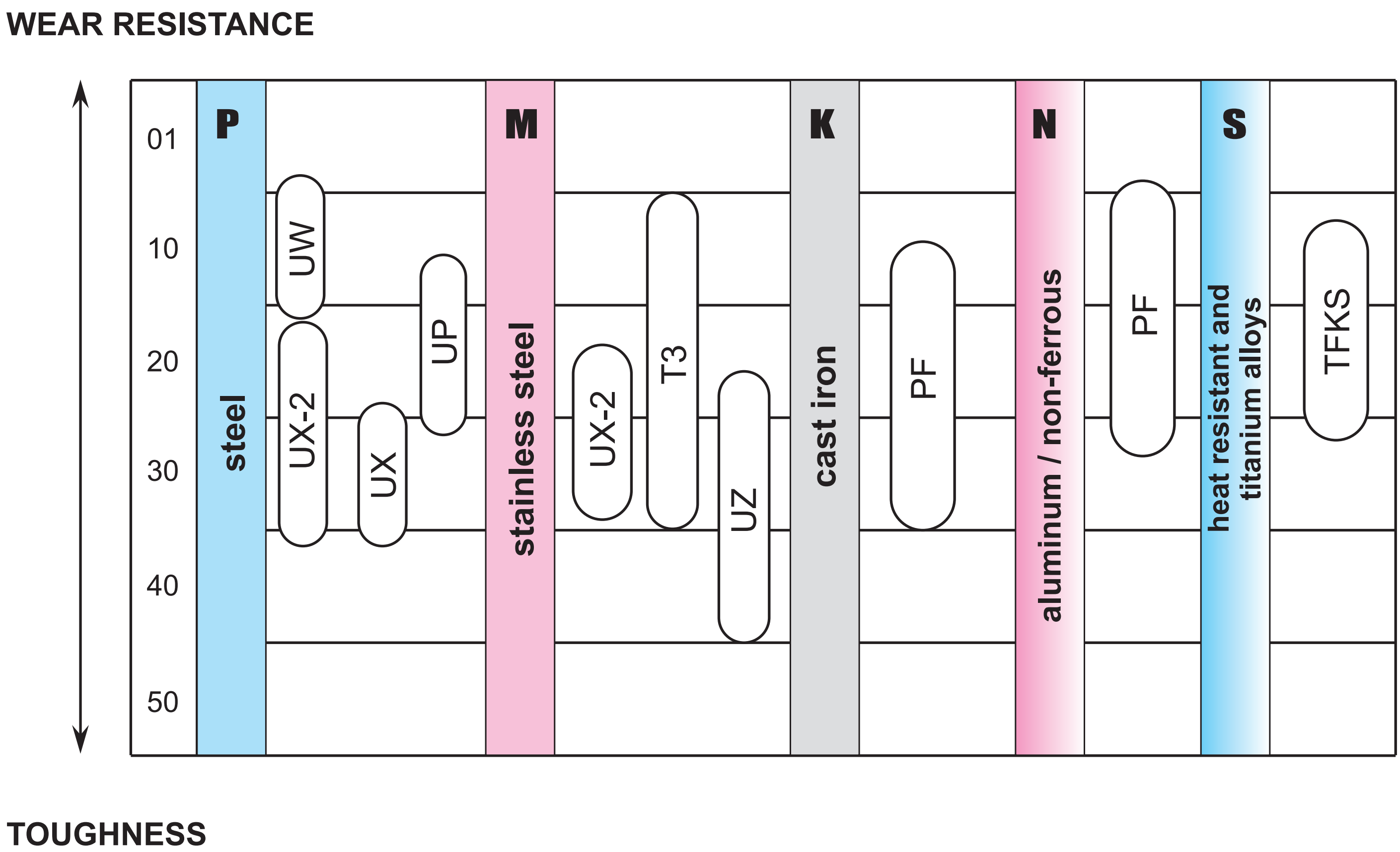
For machining stainless steel,
First choice : T3

ISO S heat resistant and titanium alloys

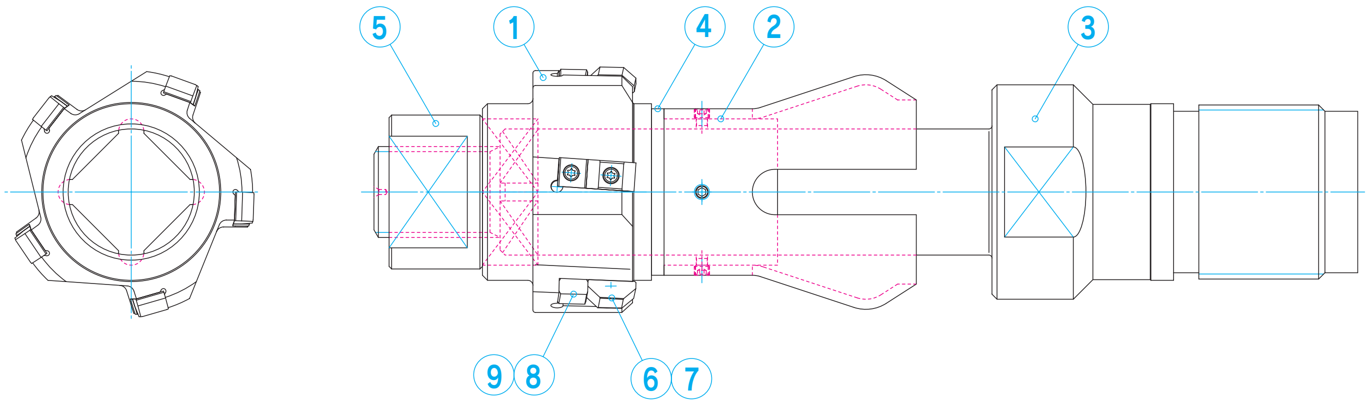
TFKS grade is for difficult to machine materials such as nickel based alloys and titanium.

ISO K cast iron

Grade PF is the best grade for cast iron drilling.



Indexable Pull Type Counter Boring Head for spun casting tubes



① Star cutter ② Forerunner ③ Shaft ④ Thrust ring ⑤ Nut ⑥ Insert ⑦ Lock screw
⑧ Guide pad protector ⑨ Lock screw

When you order complete set, please order as follows.

UPTC107-T xxx.x - P xxx.x - xxx

Tool diameter (xxx.x) — **Pre-hole diameter** (xxx.x) — **Nominal designation*** (xxx)

*Nominal designation is shown on page 41,Drill tube chart.

Ordering sample:

For the drilling dia.is 63mm, pre-hole dia. is 60.2mm and using Internal 4 start thread.

UPTC107-T63.0-P60.5-13E**

**The pre-hole size should be specified at 0.5mm interval. So for the above, the actual pre-hole diamter is 60.2mm but please write 60.5mm when ordering.

Please use the charts on the next page (page 41) to help decide your drill specifications for ordering Star cutter.

— Spare parts chart

For example,when ordering the pre-hole size is 60.2mm and the drilling diameter is 63mm
- First, please select your required pre-hole diameter from the chart below. (The 3rd column "Pre-hole diameter")
- Then find your drilling diameter within the drilling range. (The 1st column "Drilling range")
- Finally you'll find the Star cutter description according to your need. (The 2nd column "Star cutter description")

Please note the shaft size should be chosen, considering the tooling for other drilling applications.

Drilling range (mm)	①Star cutter description	Pre-hole diameter (mm)	②Forerunner description	③Shaft description	④Thrust ring description	⑤Nut description	⑥Insert description	⑦Lock screw	⑧GP Protector	⑨Lock screw
50 ~ 53	107.1-24-xx.x[1]	41 ~ 51[2]	926.2-24-xx.x[3]	107.3-24-xx[4]	926.6-24	926.5-16	ISC154	CSTB4	GPT10	CSTB4S
53 ~ 56	107.1-24-xx.x[1]	44 ~ 54[2]								
53 ~ 56	107.1-27-xx.x[1]	44 ~ 54[2]	926.2-27-xx.x[3]	107.3-27-xx[4]	926.6-27	926.5-18				
56 ~ 61	107.1-27-xx.x[1]	47 ~ 59[2]								
61 ~ 64	107.1-27-xx.x[1]	52 ~ 62[2]								
61 ~ 64	107.1-35-xx.x[1]	52 ~ 61[2]	926.2-35-xx.x[3]	107.3-35-xx[4]	926.6-35	926.5-24				
64 ~ 76	107.1-35-xx.x[1]	55 ~ 73[2]								
76 ~ 85	107.1-35-xx.x[1]	67 ~ 82[2]								
76 ~ 85	107.1-50-xx.x[1]	67 ~ 82[2]	926.2-50-xx.x[3]	107.3-50-xx[4]	926.6-50	926.5-36				
85 ~ 86	107.1-50-xx.x[1]	76 ~ 83[2]								
86 ~ 95	107.1-50-xx.x[1]	77 ~ 92[2]								
86 ~ 95	107.1-60-xx.x[1]	77 ~ 91[2]	926.2-60-xx.x[3]	107.3-60-xx[4]	926.6-60	926.5-42				
95 ~ 106	107.1-60-xxx.x[1]	86 ~ 102[2]								
106 ~ 125	107.1-60-xxx.x[1]	97 ~ 121[2]								
106 ~ 125	107.1-80-xxx.x[1]	97 ~ 121[2]	926.2-80-xxx.x[3]	107.3-80-xx[4]	926.6-80	926.5-56				
125 ~ 140	107.1-80-xxx.x[1]	116 ~ 136[2]								

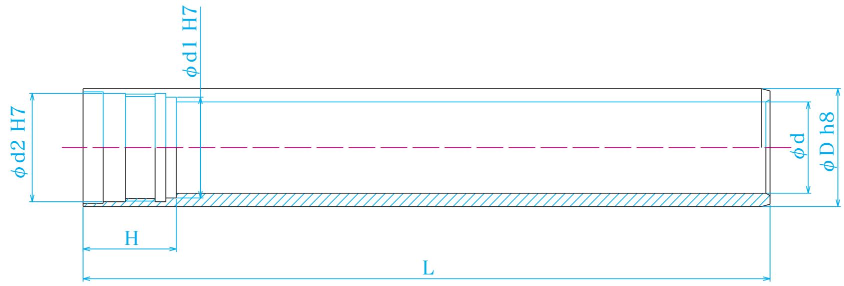
Annotation:
(1) Please write the required drilling diameter within the drilling range (xxx.x) when ordering.
(2) The pre-hole size should be specified at 0.5mm interval. For 60.2mm, please specify as 60.5mm.
(See ordering sample on page 40)
(3) Please write the pre-hole diameter (xxx.x).
(4) Please write the Nominal designation according to the drill tube chart below (xx).

— Drill tube chart

For the best possible tube match, we recommend you choose from the chart below, depending on the pre-hole diameter.

Pre-hole diameter (mm)	Drill tube diameter (mm)	External 1 start thread		Internal 4 start thread	
		Description	Nominal designation	Description	Nominal designation
40 ~ 44	36	UB36	36	ST08	08E
44 ~ 47	39	UB39	39	ST09	09E
47 ~ 52	43	UB43	43	ST10	10E
52 ~ 57	47	UB47	47	ST11	11E
57 ~ 61	51	UB51	51	ST12	12E
61 ~ 65	56	UB56	56	ST13	13E
65 ~ 68	56	UB56	56	ST14	14E
68 ~ 75	62	UB62	62	ST15	15E
75 ~ 81	68	UB68	68	ST16	16E
81 ~ 91	75	UB75	75	ST17	17E
91 ~ 99	82	UB82	82	ST18	18E
99 ~ 111	94	UB94	94	ST19	19E
111 ~ 123	106	UB106	106	ST20	20E
123 ~ 135	118	UB118	118	ST21	21E
135 ~ 149	130	UB130	130	ST22	22E

Drill Tube -STS SYSTEM - INNER TWO START AND FOUR START THEAD



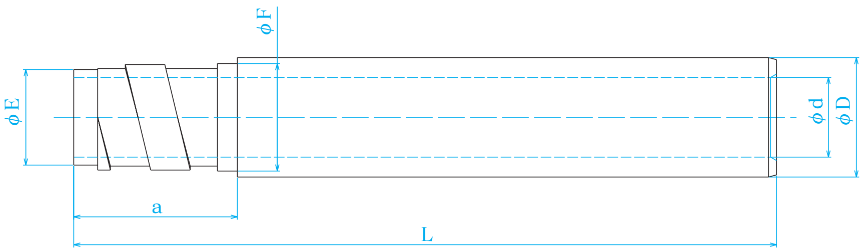
Drill Range (mm)	Unitac Tube	Dimensions (mm)					
		D	d	d1	d2	H	LEAD
12.60-13.60	ST0094	11	7	8.2	9.6	22	6
13.61-14.60	ST0095	12	8	9.2	10.6	22	6
14.61-15.60	ST0096	13	8.5	10.2	11.6	22	6
15.61-16.70	ST0097	14	9	10.8	12.6	21	8
16.71-17.70	ST0098	15	10	11.8	13.6	21	8
17.71-18.90	ST0099	16	10.5	12.5	14.5	22	8
18.91-20.00	ST0000	17	11.5	13.5	15.5	22	8
20.01-21.80	ST00	18	12	14	16	27.5	10
21.81-24.10	ST01	20	13	16	18	30	12
24.11-26.40	ST02	22	14	17.5	19.5	30	12
26.41-28.70	ST03	24	15.5	19	21	30	12
28.71-31.00	ST04	26	17	21	23.5	33	16
31.01-33.30	ST05	28	18.5	23	25.5	33	16
33.31-36.20	ST06	30	20	25.5	28	33	16
36.21-39.60	ST07	33	23	27	30	40	20
39.61-43.00	ST08	36	25.5	30	33	40	20
43.01-47.00	ST09	39	28	33	36	40	20
47.01-51.70	ST10	43	31	36	39	40	20
51.71-56.20	ST11	47	35	39.5	43	44	24
56.21-60.60	ST12	51	39	43.5	47	44	24
60.61-65.00	ST13	56	43	47.5	51	44	24
65.00-66.99	ST14	56	43	47	52	75	32
67.00-72.99	ST15	62	48	53	58	75	32
73.00-79.99	ST16	68	53	58	63	75	32
80.00-86.99	ST17	75	59	64	70	97	44
87.00-99.99	ST18	82	66	71	77	97	44
100.00-111.99	ST19	94	78	83	89	97	44
112.00-123.99	ST20	106	90	95	101	118	60
124.00-135.99	ST21	118	92	107	113	118	60
136.00-147.99	ST22	130	104	119	125	118	60
148.00-159.99	ST23	142	116	131	137	139	72
160.00-171.99	ST24	154	128	143	149	139	72
172.00-183.99	ST25	166	140	155	161	139	72
184.00-195.99	ST26	178	152	167	173	144	80
196.00-207.99	ST27	190	154	179	185	144	80
208.00-219.99	ST28	202	166	191	197	144	80
220.00-231.99	ST29	214	178	201	208	164	92
232.00-243.99	ST30	226	190	213	220	164	92

ST0094～ST0096 are inner two start thread.

＊ Please indicate Over All Length (L) when ordering ＊

Drill Tube -STS SYSTEM -

OUTER SINGLE START THREAD

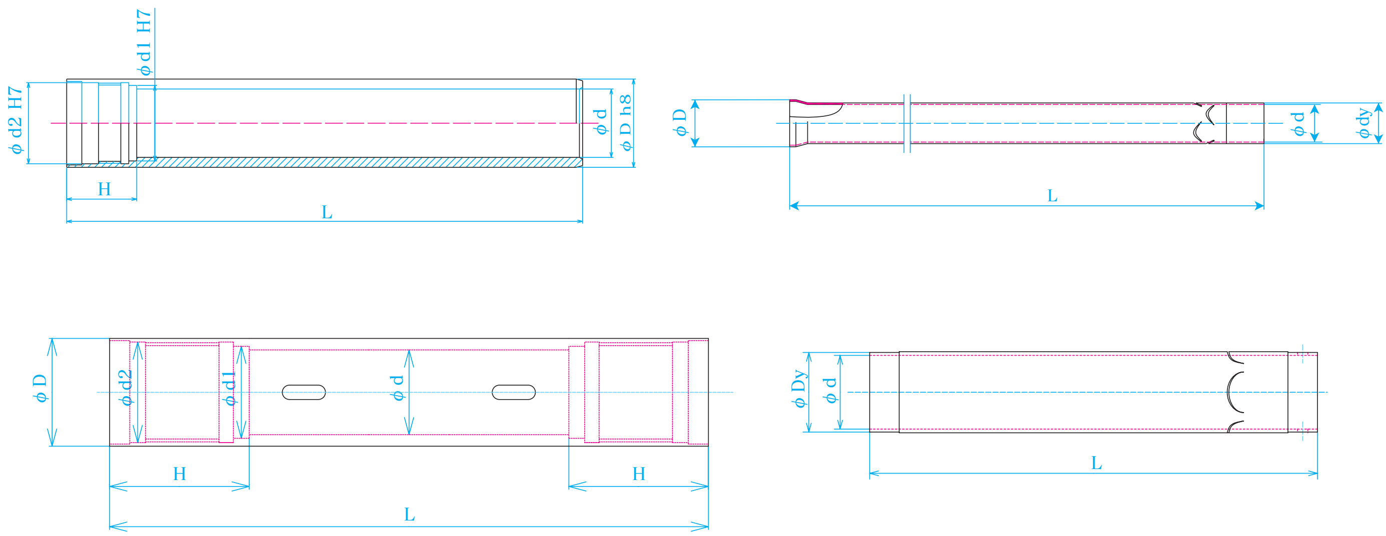


Drill Range (mm)	Unitac Tube	Dimensions (mm)					
		D	d	a	E	F	LEAD
14.50-15.00	UB12-1	12	8	23	9.9	11.5	6
15.01-15.50	UB12-2	12	8	23	10.2	11.8	6
15.51-16.00	UB13-1	13	8.5	23	10.8	12.4	6
16.01-16.50	UB13-2	13	8.5	23	11.1	12.7	6
16.51-17.25	UB14-1	14	9	23	11.8	13.4	6
17.26-18.00	UB14-2	14	9	23	12.1	13.7	6
18.01-19.00	UB15	15	10	23	12.8	14.4	6
19.01-19.99	UB16.5	16.5	11	23	13.8	15.4	6
20.00-21.99	UB18	18	12	26	14.5	16.5	10
22.00-24.99	UB20	20	13	26	16	19	10
25.00-26.99	UB22	22	14	26	17	20	10
27.00-29.99	UB24	24	15.5	26	19	22	10
30.00-31.99	UB26	26	17	26	21	24	10
32.00-33.99	UB28	28	18.5	26	23	26	10
34.00-36.99	UB30	30	20	41	24	27	20
37.00-39.99	UB33	33	23	41	27	30	20
40.00-43.99	UB36	36	25.5	41	30	33	20
44.00-46.99	UB39	39	28	41	34	37	20
47.00-51.99	UB43	43	31	41	37	41	20
52.00-56.99	UB47	47	35	41	40	44	20
57.00-60.99	UB51	51	39	41	45	49	20
61.00-67.99	UB56	56	43	41	49	53	20
68.00-74.99	UB62	62	48	41	54	59	20
75.00-80.99	UB68	68	53	71	60	65	40
81.00-90.99	UB75	75	59	71	66	71	40
91.00-98.99	UB82	82	66	71	74	79	40
99.00-110.99	UB94	94	78	71	85	90	40
111.00-122.99	UB106	106	90	71	97	102	40
123.00-134.99	UB118	118	102	71	109	114	40
135.00-148.99	UB130	130	114	71	121	126	40
149.00-161.99	UB142	142	126	71	134	139	40
162.00-173.99	UB154	154	138	86	145	151	56
174.00-185.99	UB166	166	150	86	157	163	56
186.00-197.99	UB178	178	162	86	169	175	56
198.00-209.99	UB190	190	174	86	181	187	56
210.00-221.99	UB202	202	186	86	193	199	56
222.00-233.99	UB214	214	198	86	205	211	56
234.00-245.99	UB226	226	210	86	217	223	56

＊ Please indicate Over All Length (L) when ordering ＊

Drill Tube - DTS SYSTEM -

INNER FOUR START THEAD



Outer Tube

Inner Tube

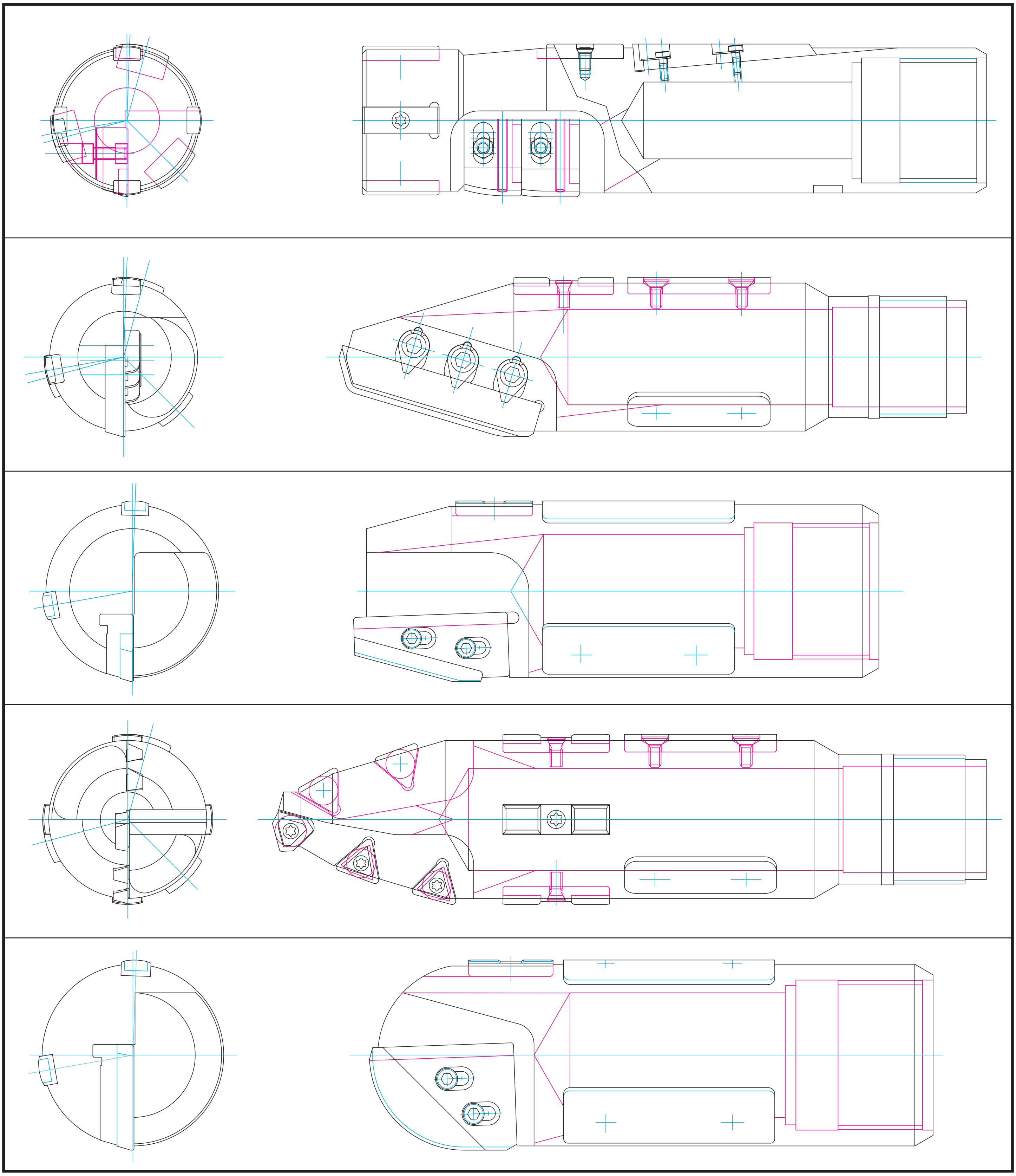
Drill Range (mm)	Outer Tube	Dimensions (mm)						Inner Tube	Dimensions (mm)		
		D	d	d1	d2	H	LEAD		D	dy	d
18.41-20.00	OT00	18	12	14	16	27.5	10	IT00	12	10	9
20.01-21.80	OT01	19.5	14	16	18	30	12	IT01	14	12	11
21.81-24.10	OT02	21.5	15	17.5	19.5	30	12	IT02	15	13	12
24.11-26.40	OT03	23.5	16	19	21	30	12	IT03	16	14	13
26.41-28.70	OT04	26	18	21	23.5	33	16	IT04	18	16	14
28.71-31.00	OT05	28	20	23	25.5	33	16	IT05	20	18	16
31.01-33.30	OT06	30.5	22	25.5	28	33	16	IT06	22	20	18
33.31-36.20	OT07	33	24	27	30	40	20	IT07	24	22	20
36.21-39.60	OT08	35.5	26	30	33	40	20	IT08	26	24	22
39.61-43.00	OT09	39	29	33	36	40	20	IT09	29	27	25
43.01-47.00	OT10	42.5	32	36	39	40	20	IT10	32	30	28
47.01-51.70	OT11	46.5	35	39.5	43	44	24	IT11	35	32	30
51.71-56.20	OT12	51	39	43.5	47	44	24	IT12	39	36	34
56.21-65.00	OT13	55.5	43	47.5	51	44	24	IT13	43	40	38
65.01-66.99	OT14	56	43	47	52	75	32	IT14	–	40	38
67.00-72.99	OT15	62	48	53	58	75	32	IT15	–	44	41
73.00-79.99	OT16	68	53	58	63	75	32	IT16	–	48	45
80.00-86.99	OT17	75	59	64	70	97	44	IT17	–	54	50
87.00-99.99	OT18	82	66	71	77	97	44	IT18	–	60	56
100.00-111.99	OT19	94	78	82	89	97	44	IT19	–	70	66
112.00-123.99	OT20	106	90	95	101	118	60	IT20	–	80	76
124.00-135.99	OT21	118	92	107	113	118	60	IT21	–	80	76

＊ Please indicate Over All Length (L) when ordering ＊

※ For ranges 18.41-65.00 (OTOO-OT13) the inner tube should be ordered 30mm longer than the outer tube

※ For ranges 65.01 -123.99 (OT14 - OT20) the inner tube should be ordered 190mm longer than outer tube.

※ For ranges124.00-183.99(OT21-OT25) the inner tube should be ordered 220mm longer than the outer tube.



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DEEP HOLE DRILLING TOOLS
UNITAC INCORPORATED

(GROUP)	(MATERIAL)	(HARDNESS)	(TENSILE STRENGTH)	(CUTTING CONDITION)	
		[HB]	[Kg/mm^2]	[M/min]	[mm/rev]
	[Non-alloy Carbon steel]				
01.1.0	C = 0.15	125	45	100	0.15
01.2.0	C = 0.35	150	55	70	0.20
01.3.0	C = 0.55	250	80	60	0.20
01.4.0	Hardened & Tempered	250 - 300	- 90	40 - 50	0.15 - 0.2
	[Alloy steel]				
02.1.0	Annealed	150 - 200	50 - 65	90 - 100	0.25 - 0.27
02.2.0	Hardened & Tempered	200 - 275	65 - 90	70 - 80	0.20 - 0.25
02.3.0	- # -	275 - 325	90 - 110	50 - 60	0.15 - 0.25
02.4.0	- # -	325 - 450	110 - 150	30 - 40	0.10 - 0.20
	[Stainless steel]				
03.1.0	Annealed, ferritic, martenstic	180 - 220	70 - 85	60 - 70	0.25 - 0.27
03.2.0	- # - austentic	150 - 280	55 - 70	50 - 60	0.25 - 0.30
	[Steel casting]				
04.1.0	Non alloy	150		80 - 100	0.20 - 0.25
04.2.0	Low alloy	150 - 250		70 - 90	0.17 - 0.23
04.3.0	High alloy (stain, aust, cast)	150 - 200		60 - 80	0.15 - 0.20
	[Heat resistant alloy]				
04.1.0	Type A ; Nimonic 75&others	140 - 180		50 - 70	0.15 - 0.20
04.4.3	Type B ; Inconel 600&others	120 - 210		40 - 60	0.15 - 0.20
04.4.5	Type C ; Inconel 750&others	140 - 280		30 - 50	0.10 - 0.20
04.4.7	Type D ; Inconel 718&others	130 - 190		30 - 50	0.10 - 0.15
04.4.9	Type E ; Inconel PK 3&others	330 - 540		15 - 30	0.05 - 0.15
05.1.0	Hardened steel	200		30 - 50	0.10 - 0.20
05.2.0	- # -	477 - 745		10 - 30	0.10 - 0.15
	[Malleable Cast-Iron]				
06.1.0	Short chipping, ferritic	110 - 145		70 - 100	0.15 - 0.25
06.2.0	Long chipping, pearlitic	200 - 250		60 - 80	0.10 - 0.20
07.1.0	Low-tensile Grey cast-iron	180		70 - 100	0.15 - 0.25
07.2.0	High-tensile Grey & alloy c-iron			60 - 80	0.10 - 0.15
	[Nodular & cast-iron]				
08.1.0	Ferritic	160		70 - 100	0.15 - 0.25
08.2.0	Pearlitic	250		60 - 80	0.10 - 0.20
09.1.0	Chilled cast-iron	400		10 - 15	0.10 - 0.15
09.2.0	- # -	600		10 - 15	0.05 - 0.10
10.1.0	Electrolytic cooper	50 - 85		100 - 200	0.20 - 0.30
	[Bronze-brass alloy]				
11.1.0	Lead alloyed	80 - 150		100 - 200	0.15 - 0.25
11.2.0	Brass, Red brass	60 - 110		100 - 200	0.15 - 0.25
11.3.0	Phosphor - bronze	85 - 110		100 - 200	0.15 - 0.25
	[Aluminum alloy]				
12.1.0	Not Heat- Treatable	30 - 80		100 - 200	0.05 - 0.15
12.2.0	Heat - Treatable	80 - 120		150 - 300	0.05 - 0.15
	[Cast aluminum alloy]				
13.1.0	Not Heat-Treatable	100		100 - 200	0.05 - 0.10
13.2.0	Heat - Treatable	130		150 - 300	0.05 - 0.10
	[Titanium]				
23.1.0	Pure - Titanium & 6v 4al	300 - 450		15 - 30	0.10 - 0.20
	[manganese]				
26.1.0	Manganese 12-14%	250		30 - 50	0.10 - 0.20