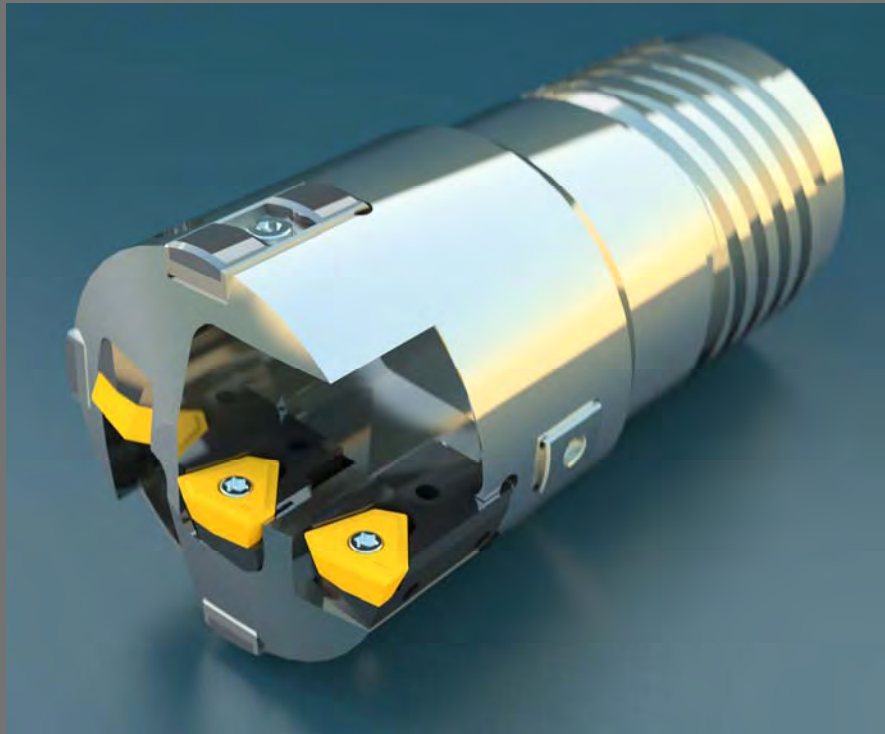


2010

# ***BTA Heller Incorporated***

## Hellerdex Indexable STS & DTS Solid Drill Heads

Hellerdex Indexable drills produce excellent hole tolerance, surface finish, & hole straightness, with superior cylindricity. Incorporating our "Plus Parts" the tool diameter can be increased as much as .197".



***BTA Heller Incorporated***

286 Executive Drive, Troy, Michigan USA – 248-597-0346 P – 248-597-0362

1/1/2010



# Hellerdex Indexable Solid Drill Heads

## Single Tube Drilling System - 4 Start Threads



Part Number	Tool Diameter	Drill Tube Part No.	Tube OD
SDSTxx.xxxx808-00	1.496 - 1.559	BAR4205808	1.299
SDSTxx.xxxx809-00	1.559 - 1.693	BAR4205809	1.417
SDSTxx.xxxx810-00	1.693 - 1.850	BAR4205810	1.535
SDSTxx.xxxx811-00	1.851 - 2.035	BAR4205811	1.693
SDSTxx.xxxx812-00	2.036 - 2.213	BAR4205812	1.850
SDSTxx.xxxx813-00	2.213 - 2.386	BAR4205813	2.008
SDSTxx.xxxx813E-00	2.386 - 2.559	BAR4205813E	2.205
SDSTxx.xxxx814-00	2.559 - 2.637	BAR4205814	2.205
SDSTxx.xxxx815-00	2.638 - 2.873	BAR4205815	2.441
SDSTxx.xxxx816-00	2.874 - 3.149	BAR4205816	2.677
SDSTxx.xxxx817-00	3.150 - 3.424	BAR4205817	2.953
SDSTxx.xxxx818-00	3.425 - 3.936	BAR4205818	3.228
SDSTxx.xxxx819-00	3.937 - 4.408	BAR4205819	3.701
SDSTxx.xxxx820-00	4.409 - 4.881	BAR4205820	4.173
SDSTxx.xxxx821-00	4.882 - 5.354	BAR4205821	4.646
SDSTxx.xxxx822-00	5.354 - 5.826	BAR4205822	5.118
SDSTxx.xxxx823-00	5.827 - 6.299	BAR4205823	5.591
SDSTxx.xxxx823-00	6.299 - 6.653	BAR4205824	6.063

\* Tool Bodies made from high strength steel & heat treated up to 42Rc.  
 Ordering example: 2) 1.500" diameter Hellerdex heads= 2)SDST015000808-00  
 Please ask about our plus parts, large tools are capable of up 5mm adjustment.

BTA HELLER MANUFACTURES A FULL RANGE OF DRILL TUBES & BUSHINGS.

HELLERDEX TOOLS CAN BE THREADED AS FOLLOWS: DOUBLE TUBE  
 4 START, SINGLE TUBE 1 START, & SINGLE TUBE ACME THREADS

# Hellerdex Indexable Solid Drill Heads

## Double Tube Drilling System - 4 Start Threads



Part Number	Tool Diameter	Drill Tube Part No.	Tube OD
SDDTxx.xxxx808-00	1.496 - 1.559	BAR4242808	1.398
SDDTxx.xxxx809-00	1.559 - 1.693	BAR4242809	1.535
SDDTxx.xxxx810-00	1.694 - 1.850	BAR4242810	1.673
SDDTxx.xxxx811-00	1.851 - 2.035	BAR4242811	1.831
SDDTxx.xxxx812-00	2.036 - 2.213	BAR4242812	2.008
SDDTxx.xxxx813-00	2.214 - 2.559	BAR4242813	2.185
SDDTxx.xxxx814-00	2.559 - 2.637	BAR4242814	2.205
SDDTxx.xxxx815-00	2.638 - 2.873	BAR4242815	2.441
SDDTxx.xxxx816-00	2.874 - 3.149	BAR4242816	2.677
SDDTxx.xxxx817-00	3.150 - 3.424	BAR4242817	2.953
SDDTxx.xxxx818-00	3.425 - 3.936	BAR4242818	3.228
SDDTxx.xxxx819-00	3.937 - 4.408	BAR4242819	3.701
SDDTxx.xxxx820-00	4.409 - 4.881	BAR4242820	4.173
SDDTxx.xxxx821-00	4.882 - 5.354	BAR4242821	4.646
SDDTxx.xxxx822-00	5.354 - 5.826	BAR4242822	5.118
SDDTxx.xxxx823-00	5.827 - 6.299	BAR4242823	5.591
SDDTxx.xxxx823-00	6.299 - 6.653	BAR4242824	6.063

\* Tool Bodies made from high strength steel & heat treated up to 42Rc.  
 Ordering example: 2) 1.500" diameter Hellerdex heads= 2)SDDT015000808-00  
 Please ask about our plus parts, large tools are capable of up 5mm adjustment.

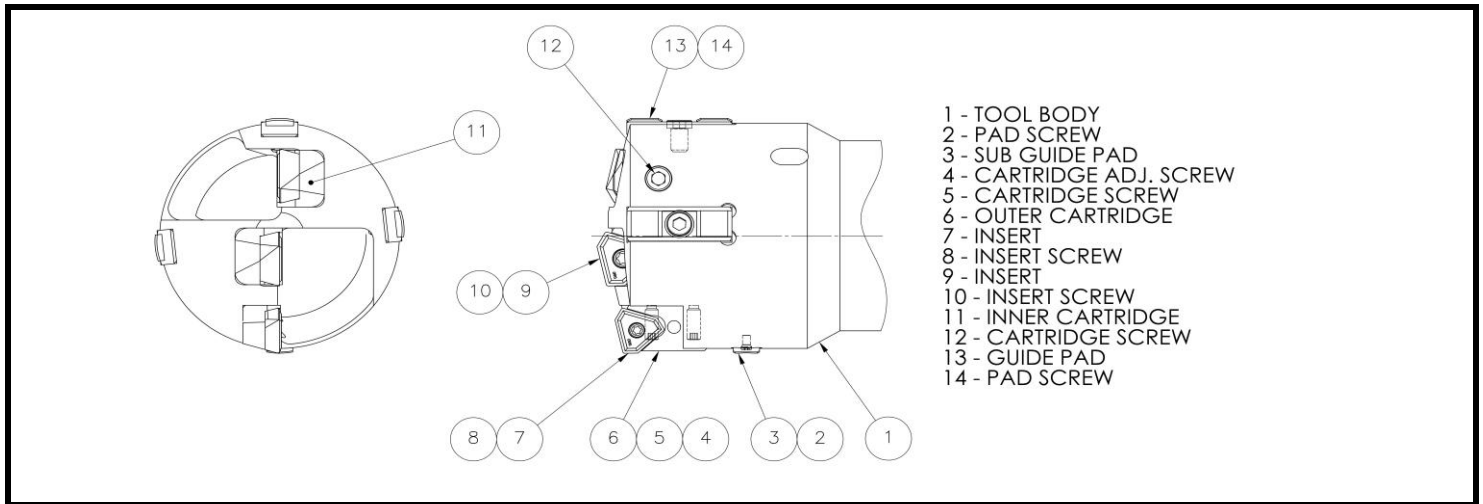
BTA HELLER MANUFACTURES HARDENED INNER & OUTER DRILL TUBES AS  
 WELL AS ALL DOUBLE TUBE SYSTEM ACCESSOTRIES

LARGER TOOL DIAMETERS QUOTED UPON REQUEST



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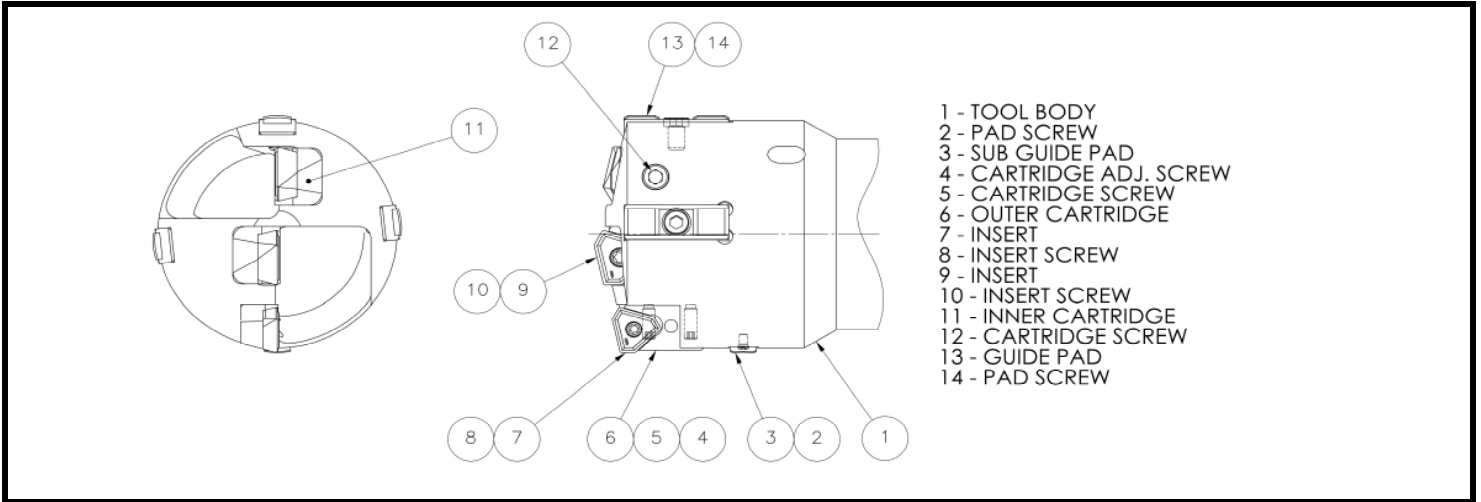
**DEEP HOLE DRILLING TOOLS & SYSTEMS**



### SINGLE TUBE DRILLING SYSTEM 4-START THREAD CONNECTION

PARTS		DIAMETER INCH					
		1.496 - 1.574	1.575 - 1.771	1.772 - 1.889	1.890 - 2.046	2.047 - 2.164	2.165 - 2.283
CARTRIDGE	OUTER	CTOZ05R	CTOZ402-04	CTOZ402-04	CTOZ402-04	CTOZ402-32	CTOZ402-32
	ADJUST SCREW	X00MM305005HDSS	X00MM407008HDSS	X00MM407008HDSS	X00MM407008HDSS	X00MM508010HDSS	X00MM508010HDSS
	CARTRIDGE SCREW	X00MM305008BHCS	X00MM3.506010BHCS	X00MM3.506010BHCS	X00MM3.506010BHCS	X00MM508012BHCS	X00MM508012BHCS
	INNER	CTIOZ05R	CTIOZ05R	CTIOZ05R	CTIOZ402-04	CTIOZ402-04	CTIOZ402-04
	CARTRIDGE SCREW	X00MM305008SHCS	X00MM305008SHCS	X00MM305008SHCS	X00MM3.506008SHCS	X00MM3.506008SHCS	X00MM3.506008SHCS
	CENTER	CTIOZ05R	CTIOZ05R	CTIOZ402-04	CTIOZ402-04	CTIOZ402-04	CTIOZ402-32
	CARTRIDGE SCREW	X00MM305008SHCS	X00MM305008SHCS	X00MM305008SHCS	X00MM305008SHCS	X00MM305008SHCS	X00MM508012SHCS
INSERT	OUTER	BT50805UF110C	BT112304	BT112304	BT112304	BT112332	BT112332
	SCREW	X00MCSTB2.2	X00MCSTB2.5	X00MCSTB2.5	X00MCSTB2.5	X00MCSTB3.5D	X00MCSTB3.5D
	INNER	BT50805UF110C	BT50805UF110C	BT50805UF110C	BT112304Z23ER	BT112304	BT112304
	SCREW	X00MCSTB2.2	X00MCSTB2.2	X00MCSTB2.2	X00MCSTB2.5	X00MCSTB2.5	X00MCSTB2.5
	CENTER	BT50805UF110C	BT50805UF110C	BT112304	BT112304Z23ER	BT112304	BT112332
	SCREW	X00MCSTB2.2	X00MCSTB2.2	X00MCSTB2.5	X00MCSTB2.5	X00MCSTB2.5	X00MCSTB3.5D
PAD	GUIDE PAD	TBT00013	TBT00013	TBT00018	TBT00018	TBT00018	TBT00018
	SCREW	X00MM305008LHCS	X00MM305008LHCS	X00MM407008LHCS	X00MM407008LHCS	X00MM407008LHCS	X00MM407008LHCS
	SUB GUIDE PAD	CUG-08BTA	CUG-08BTA	CUG-08BTA	CUG-08BTA	CUG-08BTA	CUG-08BTA
	SCREW	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S

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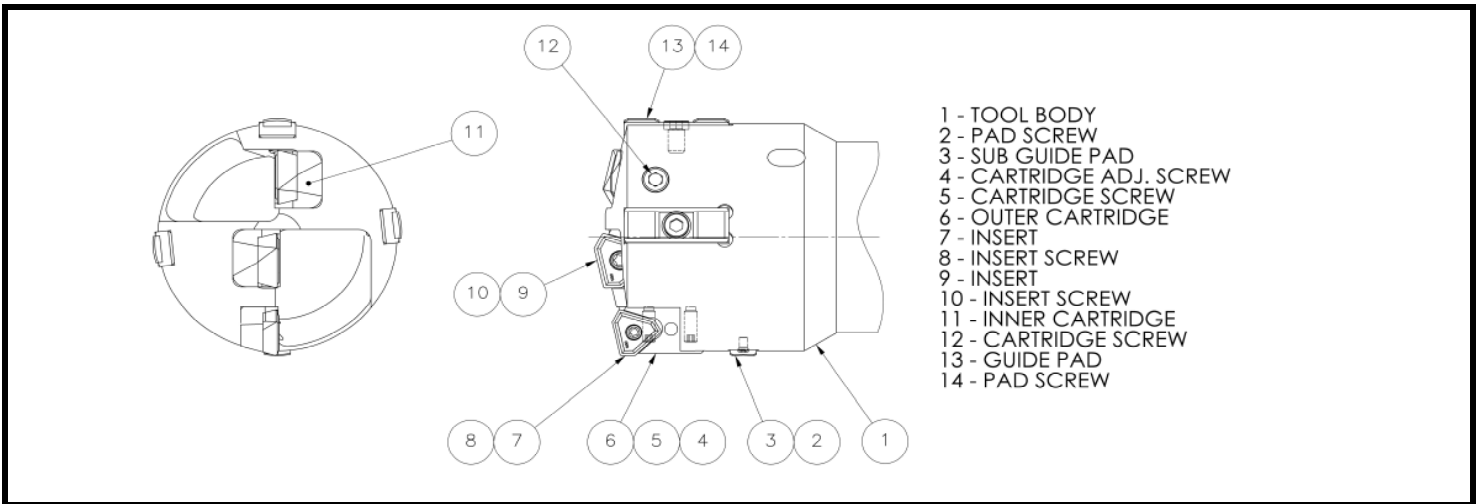
**SINGLE TUBE DRILLING SYSTEM 4-START THREAD CONNECTION**

PARTS		DIAMETER INCH					
		2.284 - 2.361	2.362 - 2.519	2.520 - 2.676	2.677 - 3.070	3.071 - 3.346	3.347 - 3.621
CARTRIDGE	OUTER	CTOZ402-32	CTOZ402-32	CTOZ402-43	CTOZ402-32	CTOZ402-43	CTOZ402-63
	ADJUST SCREW	X00MM508010HDSS	X00MM508010HDSS	X00MM508010HDSS	X00MM508010HDSS	X00MM508010HDSS	X00MM610014HDSS
	CARTRIDGE SCREW	X00MM508012BHCS	X00MM508012BHCS	X00MM610016BHCS	X00MM508012BHCS	X00MM610016BHCS	X00MM610016BHCS
	INNER	CTIOZ402-32	CTIOZ402-32	CTIOZ402-32	CTIOZ402-43	CTIOZ402-43	CTIOZ402-43
	CARTRIDGE SCREW	X00MM508012SHCS	X00MM508012SHCS	X00MM508012SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS
	CENTER	CTIOZ402-32	CTIOZ402-32	CTIOZ402-32	CTIOZ402-43	CTIOZ402-43	CTIOZ402-43
INSERT	CARTRIDGE SCREW	X00MM508012SHCS	X00MM508012SHCS	X00MM508012SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS
	OUTER	BT112332	BT112332	BT112343	BT112332	BT112343	BT112363
	SCREW	X00MCSTB3.5D	X00MCSTB3.5D	X00MCSTB4M	X00MCSTB3.5D	X00MCSTB4M	X00MCSTB5
	INNER	BT112332	BT112332	BT112332	BT112343	BT112343	BT112343
	SCREW	X00MCSTB3.5D	X00MCSTB3.5D	X00MCSTB3.5D	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M
PAD	CENTER	BT112332	BT112332	BT112332	BT112343	BT112343	BT112343
	SCREW	X00MCSTB3.5D	X00MCSTB3.5D	X00MCSTB3.5D	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M
	GUIDE PAD	TBT00018	TBT00023	TBT00023	TBT00023	TBT00023	TBT00023
	SCREW	X00MM407008LHCS	X00MM5080010BHCS	X00MM508010BHCS	X00MM508010BHCS	X00MM508010BHCS	X00MM508010BHCS
PAD	SUB GUIDE PAD	CUG-08BTA	CUG-08BTA	CUG-10BTA	CUG-10BTA	CUG-10BTA	CUG-10BTA
	SCREW	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S	X00MCSTB3S



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**DEEP HOLE DRILLING TOOLS & SYSTEMS**



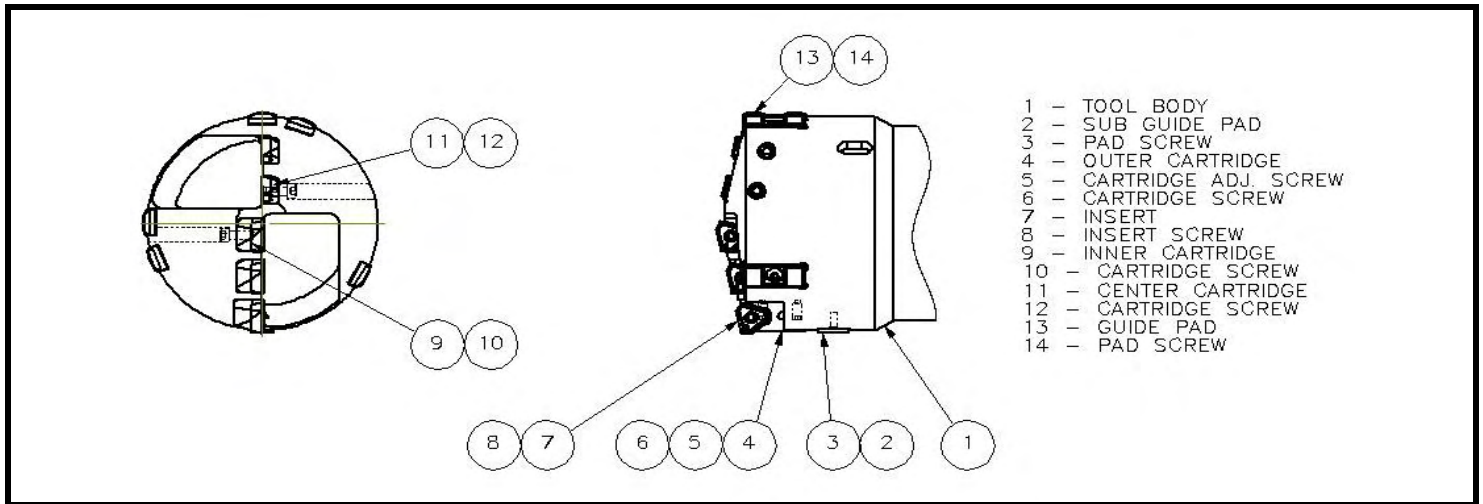
### SINGLE TUBE DRILLING SYSTEM 4-START THREAD CONNECTION

PARTS		DIAMETER INCH	
		3.622 - 3.897	3.898 - 4.212
CARTRIDGE	OUTER	CTOZ402-43	CTOZ402-63
	ADJUST SCREW	X00MM508010HDSS	X00MM610014HDPSS
	CARTRIDGE SCREW	X00MM610016BHCS	X00MM610016BHCS
	INNER	CTIOZ402-63	CTIOZ402-63
	CARTRIDGE SCREW	X00MM610016SHCS	X00MM610016SHCS
	CENTER	CTIOZ402-63	CTIOZ402-63
	CARTRIDGE SCREW	X00MM610016SHCS	X00MM610016SHCS
INSERT	OUTER	BT112343	BT112363
	SCREW	X00MCSTB4M	X00MCSTB5
	INNER	BT112363	BT112363
	SCREW	X00MCSTB5	X00MCSTB5
	CENTER	BT112363	BT112363
	SCREW	X00MCSTB5	X00MCSTB5
PAD	GUIDE PAD	TBT00023	TBT00028
	SCREW	X00MM508010BHCS	X00MM610010BHCS
	SUB GUIDE PAD	CUG-10BTA	CUG-14BTA
	SCREW	X00MCSTB3S	X00MCSTA5S

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DEEP HOLE DRILLING TOOLS & SYSTEMS



**SINGLE TUBE DRILLING SYSTEM 4-START THREAD CONNECTION**

PARTS		DIAMETER INCH					
		4.213 - 4.645	4.646 - 5.353	5.354 - 5.708	5.709 - 5.944	5.954 - 6.180	6.181 - 6.416
CARTRIDGE	OUTER	CTOZ402-43	CTOZ402-43	CTOZ402-43	CTOZ402-43	CTOZ402-63	CTOZ402-63
	ADJUST SCREW	X00MM508010HDSS	X00MM508010HDSS	X00MM508010HDSS	X00MM508010HDSS	X00MM610014HDSS	X00MM610014HDSS
	CARTRIDGE SCREW	X00MM610016BHCS	X00MM610016BHCS	X00MM610016BHCS	X00MM610016BHCS	X00MM610016BHCS	X00MM610016BHCS
	INNER	(3) CTIOZ402-32	(3) CTIOZ402-43	(3) CTIOZ402-43	(2) CTIOZ402-43	(2) CTIOZ402-43	(1) CTIOZ402-43
	CARTRIDGE SCREW	X00MM508012SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS
	CENTER	(1) CTIOZ402-43	(1) CTIOZ402-43	(1) CTIOZ402-63	(2) CTIOZ402-63	(2) CTIOZ402-63	(3) CTIOZ402-63
	CARTRIDGE SCREW	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS	X00MM610016SHCS
INSERT	OUTER	BT112343	BT112343	BT112343	BT112343	BT112363	BT112363
	SCREW	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M	X00MCSTB5	X00MCSTB5
	INNER	(3) BT112332	(3) BT112343	(3) BT112343	(2) BT112343	(2) BT112343	(1) BT112343
	SCREW	X00MCSTB3.5D	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M	X00MCSTB4M
	CENTER	(1) BT112343	(1) BT112343	(1) BT112363	(2) BT112363	(2) BT112363	(3) BT112363
	SCREW	X00MCSTB4M	X00MCSTB4M	X00MCSTB5	X00MCSTB5	X00MCSTB5	X00MCSTB5
PAD	GUIDE PAD	TBT00028	TBT00028	TBT00028	TBT00028	TBT00028	TBT00028
	SCREW	X00MM610010BHCS	X00MM610010BHCS	X00MM610010BHCS	X00MM610010BHCS	X00MM610010BHCS	X00MM610010BHCS
	SUB GUIDE PAD	CUG-14BTA	CUG-14BTA	CUG-14BTA	CUG-14BTA	CUG-14BTA	CUG-14BTA
	SCREW	X00MCSTA5S	X00MCSTA5S	X00MCSTA5S	X00MCSTA5S	X00MCSTA5S	X00MCSTA5S

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## HELLERDEX PLUS STYLE SPARE PARTS.

Exchange only the outer cartridge & guide pads - resulting in a diameter increase of up to 5mm or .197" depending on tool size.

### Outer Cartridges

Outer Cartridge	PLUS 1mm	PLUS 2mm	PLUS 3mm	PLUS 4mm	PLUS 5mm
CT-OZ05R	CT-OZ05R+1	CT-OZ05R+2			
CT-OZ402-04	CT-OZ402-04+1	CT-OZ402-04+2	CT-OZ402-04+3		
CT-OZ402-32	CT-OZ402-32+1	CT-OZ402-32+2	CT-OZ402-32+3	CT-OZ402-32+4	
CT-OZ402-43	CT-OZ402-43+1	CT-OZ402-43+2	CT-OZ402-43+3	CT-OZ402-43+4	CT-OZ402-43+5
CT-OZ402-43	CT-OZ402-63+1	CT-OZ402-63+2	CT-OZ402-63+3	CT-OZ402-63+4	CT-OZ402-63+5

### Guide Pads

Guide Pads	PLUS 1mm	PLUS 2mm	PLUS 3mm	PLUS 4mm	PLUS 5mm
FL-08BRD	FL-08+1BRD	FL-08+2BRD	FL-08+3BRD		
FL-10BRD	FL-10+1BRD	FL-10+2BRD	FL-10+3BRD	FL-10+4BRD	
FL-14BRD	FL-14+1BRD	FL-14+2BRD	FL-14+3BRD	FL-14+4BRD	FL-14+5BRD
FL-18BRD	FL-18+1BRD	FL-18+2BRD	FL-18+3BRD	FL-18+4BRD	FL-18+5BRD





**COOLANT**

**BORE**

<b><u>DIA.</u></b>	<b><u>SFPM</u></b>	<b><u>IPR</u></b>	<b><u>GPM</u></b>	<b><u>PSI</u></b>
1.5	270	.004-.007	37-45	385-460
1.75	270	.004-.008	44-53	290-375
2	270	.006-.009	50-60	235-300
2.25	270	.006-.010	56-68	200-275
2.5	270	.006-.012	62-75	195-250
2.75	270	.006-.012	69-83	185-235
3	270	.008-.012	75-90	185-235
3.25	270	.008-.012	81-98	175-225
3.5	270	.008-.014	88-105	175-225
3.75	270	.008-.014	94-113	170-220
4	270	.008-.014	100-120	170-220
4.25	270	.008-.014	106-128	170-220
4.5	270	.008-.014	113-135	170-220
4.75	270	.008-.014	119-143	160-210
5	270	.008-.014	125-150	160-210
5.25	270	.008-.014	131-158	150-200
5.5	270	.008-.014	138-165	150-200
5.75	270	.008-.014	144-173	150-200
6	270	.008-.014	150-180	150-200

**FOR COUNTER BORING OR REAMING INCREASE THE FEED RATE BY x 1.7  
EXAMPLE STANDARD .008 x 1.7 = .014 IPR FOR COUNTER BORING OR REAMING.**

Adjustment to (SFPM and / or (RPM) based on material being drilled/maintaining the chip loads S' (IPR) given above: EXAMPLE: 270 SFPM x 1.10 "4130" = 297 SFPM

Cold rolled or mild steels: x 1.10-1.33  
 AISI 8600 steels: x 1.00 – 1.27  
 AISI 4100 steels: x 1.00 – 1.33  
 AISI 4300 steels: x 0.93  
 P550: x 0.45  
**Aluminum Alloys Cast: 2.50**

**Grey Cast Irons: x 1.1**  
 300 series stainless: x 0.55 -0.70  
 400 series stainless: x 1.17  
 Inconel: x .30 - .38  
 Titanium/Zirconium: x 0.30 - 0.40  
**17-4 Stainless: x .60-.88**

SFPM=  $\frac{\text{Dia.} \times 3.142 \times \text{RPM}}{12}$       RPM=  $\frac{\text{SFPM} \times 12}{\text{Dia.} \times 3.142}$

IPM= IPR x RPM

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