

## PENCIL DESIGN

### Benefits and features

- For drilling to finishing
- Pencil design enabling machining in deep cavities and complex components
- Special designs possibility
- High clamping force



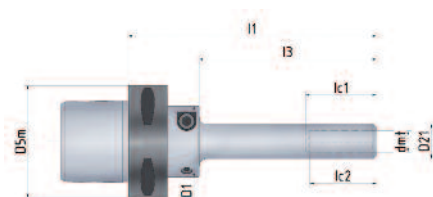
# ETP HYDRO-GRIP® PENCIL

## Hydraulic high precision toolholder – Pencil version

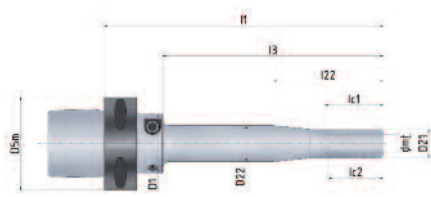
ETP HYDRO-GRIP® PENCIL is with its extreme slim design one of the most versatile holder on the market. An extensive range of

standard dimensions and lengths optimizes your productivity when machining deep cavities and complex components.

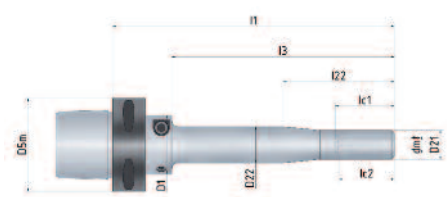
ETP HYDRO-GRIP® PENCIL can also be made to your specific gauge line requirement, using our Special designs possibility.



PSK form design 1



PSK form design 2



PSK form design 3

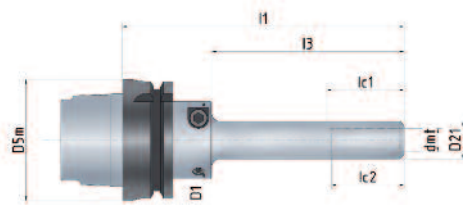
# ETP HYDRO-GRIP® PENCIL

## Hydraulic high precision toolholder – Pencil version

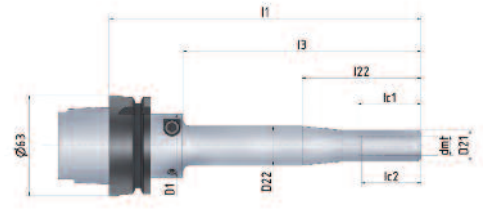
### Technical Specification PSK form

Design	Coupling size	Ordering code	Dimensions, mm														
			$D_{5m}$	$dm_1$	$D_1$	$D_{21}$	$D_{22}$	$l_{c1}$	$l_{c2}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{23}$	$l_{24}$		
● 1	C4	HG PENCIL-6x50/C4	40	6	40	12		40	30	88	50						
○ 1		HG PENCIL-8x50/C4	40	8	40	14,5		40	30	88	50						
○ 1		HG PENCIL-10x50/C4	40	10	40	17		40	37	88	50						
○ 1		HG PENCIL-10x100/C4	40	10	40	17		40	37	138	100						
● 1		HG PENCIL-12x50/C4	40	12	40	19,5		40	37	88	50						
● 1		HG PENCIL-12x100/C4	40	12	40	19,5		40	37	138	100						
● 2		HG PENCIL-12x150/C4	40	12	40	19,5	24,5	40	37	188	150	50	75				
● 1	C5	HG PENCIL-6x50/C5	50	6	40	12		40	30	88	50					68	
○ 1		HG PENCIL-8x50/C5	50	8	40	14,5		40	30	88	50					68	
○ 1		HG PENCIL-10x50/C5	50	10	40	17		40	37	88	50					68	
○ 1		HG PENCIL-10x100/C5	50	10	40	19,5		40	37	138	100					118	
● 1		HG PENCIL-12x50/C5	50	12	40	19,5		40	37	88	50					68	
● 1		HG PENCIL-12x100/C5	50	12	40	19,5		40	37	138	100					118	
● 2		HG PENCIL-12x150/C5	50	12	40	19,5	24,5	40	37	188	150	50	75	168			
○ 1		HG PENCIL-16x75/C5	50	16	40	26		50	47	113	75					93	
○ 1		HG PENCIL-16x125/C5	50	16	40	26		50	47	163	125					143	
● 3		HG PENCIL-20x110/C5	50	20	40	32		52	49	148	110					128	60
● 3		HG PENCIL-20x190/C5	50	20	40	32		52	49	228	190					208	60
● 1	C6	HG PENCIL-6x50/C6	63	6	40	12		40	30	90	50					68	
○ 1		HG PENCIL-8x50/C6	63	8	40	14,5		40	30	90	50					68	
○ 1		HG PENCIL-10x50/C6	63	10	40	17		40	37	90	50					68	
○ 1		HG PENCIL-10x100/C6	63	10	40	17		40	37	140	100					118	
● 1		HG PENCIL-12x50/C6	63	12	40	19,5		40	37	90	50					68	
● 1		HG PENCIL-12x100/C6	63	12	40	19,5		40	37	140	100					118	
● 2		HG PENCIL-12x150/C6	63	12	40	19,5	24,5	40	37	190	150	50	75	168			
○ 1		HG PENCIL-16x75/C6	63	16	40	26		50	47	115	75					93	
○ 1		HG PENCIL-16x125/C6	63	16	40	26		50	47	165	125					143	
● 3		HG PENCIL-20x110/C6	63	20	40	32		52	49	150	110					128	60
● 3		HG PENCIL-20x190/C6	63	20	40	32		52	49	230	190					208	60
○ 1	C8	HG PENCIL-10x50/C8	80	10	40	17		40	37	102	50					72	
○ 1		HG PENCIL-10x100/C8	80	10	40	17		40	37	152	100					122	
● 1		HG PENCIL-12x50/C8	80	12	40	19,5		40	37	102	50					72	
● 1		HG PENCIL-12x100/C8	80	12	40	19,5		40	37	152	100					122	
● 2		HG PENCIL-12x150/C8	80	12	40	19,5	24,5	40	37	202	150	50	75	172			
○ 1		HG PENCIL-16x75/C8	80	16	40	26		50	47	127	75					97	
○ 1		HG PENCIL-16x125/C8	80	16	40	26		50	47	177	125					147	
● 3		HG PENCIL-20x110/C8	80	20	40	32		52	49	162	110					132	60
● 3		HG PENCIL-20x190/C8	80	20	40	32		52	49	242	190					212	60

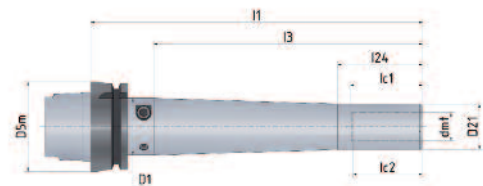
$l_1$  = programming length



HSK form design 1



HSK form design 2



HSK form design 3

# ETP HYDRO-GRIP® PENCIL

## Hydraulic high precision toolholder – Pencil version

### Technical Specification HSK form A/C

Design	HSK size	Ordering code	Dimensions, mm												
			$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{24}$	$l_{c1}$	$l_{c2}$	
● 1	63	HG PENCIL-6x50/HSK63	63	6	40	12		96,5	50					40	30
○ 1		HG PENCIL-8x50/HSK63	63	8	40	14,5		96,5	50					40	30
○ 1		HG PENCIL-10x50/HSK63	63	10	40	17		96,5	50					40	37
○ 1		HG PENCIL-10x100/HSK63	63	10	40	17		146,5	100					40	37
● 1		HG PENCIL-12x50/HSK63	63	12	40	19,5		96,5	50					40	37
● 1		HG PENCIL-12x100/HSK63	63	12	40	19,5		146,5	100					40	37
● 2		HG PENCIL-12x150/HSK63	63	12	40	19,5	24,5	196,5	150	50	75			40	37
○ 1		HG PENCIL-16x75/HSK63	63	16	40	26		121,5	75					50	47
○ 1		HG PENCIL-16x125/HSK63	63	16	40	26		171,5	125					50	47
● 3		HG PENCIL-20x110/HSK63	63	20	40	32		156,5	110			60		52	49
● 3		HG PENCIL-20x190/HSK63	63	20	40	32		236,5	190			60		52	49
○ 1	100	HG PENCIL-10x50/HSK100	100	10	40	17		117	50					40	37
○ 1		HG PENCIL-10x100/HSK100	100	10	40	17		167	100					40	37
● 1		HG PENCIL-12x50/HSK100	100	12	40	19,5		117	50					40	37
● 1		HG PENCIL-12x100/HSK100	100	12	40	19,5		167	100					40	37
● 2		HG PENCIL-12x150/HSK100	100	12	40	19,5	24,5	217	150	50	75			40	37
○ 1		HG PENCIL-16x75/HSK100	100	16	40	26		142	75					50	47
○ 1		HG PENCIL-16x125/HSK100	100	16	40	26		192	125					50	47
○ 3		HG PENCIL-20x110/HSK100	100	20	40	32		177	110			60		52	49
○ 3		HG PENCIL-20x190/HSK100	100	20	40	32		257	190			60		52	49

### Technical Specification HSK form E

Design	HSK size	Ordering code	Dimensions, mm												
			$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{c1}$	$l_{c2}$		
○ 1	50	HG PENCIL-6x50/HSK50	50	6	40	12		94	50					40	30
○ 1		HG PENCIL-8x50/HSK50	50	8	40	14,5		94	50					40	30
○ 1		HG PENCIL-10x50/HSK50	50	10	40	17		94	50					40	37
○ 1		HG PENCIL-10x100/HSK50	50	10	40	17		144	100					40	37
○ 1		HG PENCIL-12x50/HSK50	50	12	40	19,5		94	50					40	37
○ 1		HG PENCIL-12x100/HSK50	50	12	40	19,5		144	100					40	37
○ 2		HG PENCIL-12x150/HSK50	50	12	40	19,5	24,5	194	150	50	75			40	37

# ETP HYDRO-GRIP® PENCIL

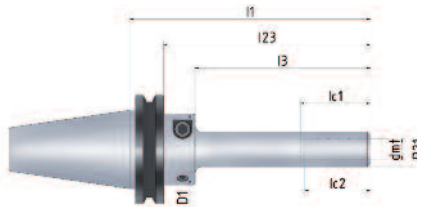
## Cylindrical shank



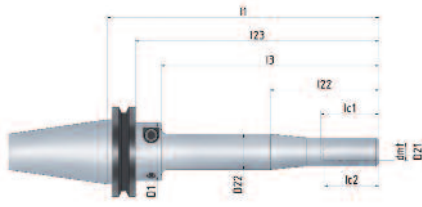
### Technical Specification

Ordering code	Dimensions, mm/inch			
	$dm_m$	$dm_t$	$l_c$	$l_1$
● HG PENCIL-12/Rd20	20	12	40	150

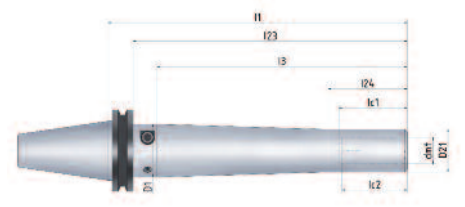
$l_1$  = programming length



ISO form design 1



ISO form design 2



ISO form design 3

# ETP HYDRO-GRIP® PENCIL Hydraulic high precision toolholder – Pencil version

## Technical Specification ISO form A

Design	Spindle design	Taper	Ordering code	Dimensions													
				$dm_1$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{23}$	$l_{24}$	$l_{c1}$	$l_{c2}$		
1	ISO7388/1	ISO40	HG PENCIL-6x50/ISO40	6	40	12				87	50			67,9		40	30
1			HG PENCIL-8x50/ISO40	8	40	14,5				87	50			67,9		40	30
1			HG PENCIL-10x50/ISO40	10	40	17				87	50			67,9		40	37
1			HG PENCIL-10x100/ISO40	10	40	17				137	100			117,9		40	37
1			HG PENCIL-12x50/ISO40	12	40	19,5				87	50			67,9		40	37
1			HG PENCIL-12x100/ISO40	12	40	19,5				137	100			117,9		40	37
2			HG PENCIL-12x150/ISO40	12	40	19,5	24,5			187	150	50	75	167,9		40	37
1			HG PENCIL-16x75/ISO40	16	40	26				112	75			92,9		50	47
1			HG PENCIL-16x125/ISO40	16	40	26				162	125			142,9		50	47
3			HG PENCIL-20x110/ISO40	20	40	32				147	110			127,9	60	52	49
3			HG PENCIL-20x190/ISO40	20	40	32				227	190			207,9	60	52	49
1	ISO7388/1	ISO50	HG PENCIL 12x50/ISO50	12	40	19,5				87	50			67,9		40	37
1			HG PENCIL 12x100/ISO50	12	40	19,5				137	100			117,9		40	37
2			HG PENCIL 12x150/ISO50	12	40	19,5	24,5			187	150	50	75	167,9		40	37
3			HG PENCIL 20x110/ISO50	20	40	32				147	110			127,9	60	52	49
3			HG PENCIL 20x190/ISO50	20	40	32				227	190			207,9	60	52	49
1	MAS-BT403	ISO30	HG PENCIL-6x50/BT30	6	40	12				90	50			68		40	30
1			HG PENCIL-8x50/BT30	8	40	14,5				90	50			68		40	30
1			HG PENCIL-10x50/BT30	10	40	17				90	50			68		40	37
1			HG PENCIL-10x100/BT30	10	40	17				140	100			118		40	37
1			HG PENCIL-12x50/BT30	12	40	19,5				90	50			68		40	37
1			HG PENCIL-12x100/BT30	12	40	19,5				140	100			118		40	37
2			HG PENCIL-12x150/BT30	12	40	19,5	24,5			190	150	50	75	168		40	37
3			HG PENCIL-20x110/BT30	20	40	32				150	110			128	60	52	49
3			HG PENCIL-20x190/BT30	20	40	32				230	190			208	60	52	49
1	MAS-BT403	ISO40	HG PENCIL-6x50/BT40	6	40	12				95	50			68		40	30
1			HG PENCIL-8x50/BT40	8	40	14,5				95	50			68		40	30
3			HG PENCIL-10x50/BT40	10	40	17				95	50			68		40	37
3			HG PENCIL-10x100/BT40	10	40	17				145	100			118		40	37
1			HG PENCIL-12x50/BT40	12	40	19,5				95	50			68		40	37
1			HG PENCIL-12x100/BT40	12	40	19,5				145	100			118		40	37
1			HG PENCIL-12x150/BT40	12	40	19,5	24,5			195	150	50	75	168		40	37
1			HG PENCIL-16x75/BT40	16	40	26				120	75			93		50	47
2			HG PENCIL-16x125/BT40	16	40	26				170	125			143		50	47
3			HG PENCIL-20x110/BT40	20	40	32				155	110			128	60	52	49
3			HG PENCIL-20x190/BT40	20	40	32				235	190			208	60	52	49
1	MAS-BT403	ISO50	HG PENCIL 12x50/BT50	12	40	19,5				106	50			68		40	37
1			HG PENCIL 12x100/BT50	12	40	19,5				156	100			118		40	37
2			HG PENCIL 12x150/BT50	12	40	19,5	24,5			206	150	50	75	168		40	37
3			HG PENCIL 20x110/BT50	20	40	32				166	110			128	60	52	49
3			HG PENCIL 20x190/BT50	20	40	32				246	190			206,5	60	52	49
1	CAT V	ISO40	HG PENCIL-6x50/CAT40	6	40	12				88	50			68,95		40	30
1			HG PENCIL-8x50/CAT40	8	40	14,5				88	50			68,95		40	30
1			HG PENCIL-10x50/CAT40	10	40	17				88	50			68,95		40	37
1			HG PENCIL-10x100/CAT40	10	40	17				138	100			118,95		40	37
1			HG PENCIL-12x50/CAT40	12	40	19,5				88	50			68,95		40	37
1			HG PENCIL-12x100/CAT40	12	40	19,5				138	100			118,95		40	37
2			HG PENCIL-12x150/CAT40	12	40	19,5	24,5			188	150	50	75	168,95		40	37
1			HG PENCIL-16x75/CAT40	16	40	26				113	75			93,95		50	47
1			HG PENCIL-16x125/CAT40	16	40	26				163	125			143,95		50	47
3			HG PENCIL-20x110/CAT40	20	40	32				148	110			128,95	60	52	49
3			HG PENCIL-20x190/CAT40	20	40	32				228	190			208,95	60	52	49
1	CAT V	ISO50	HG PENCIL 12x50/CAT50	12	40	19,5				88	50			68,95		40	37
1			HG PENCIL 12x100/CAT50	12	40	19,5				138	100			118,95		40	37
2			HG PENCIL 12x150/CAT50	12	40	19,5	24,5			150	50	75		168,95		40	37
3			HG PENCIL 20x110/CAT50	20	40	32				148	110			128,95	60	52	49
3			HG PENCIL 20x190/CAT50	20	40	32				228	190			208,95	60	52	49

$l_1$  = programming length