

Benefits and features

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

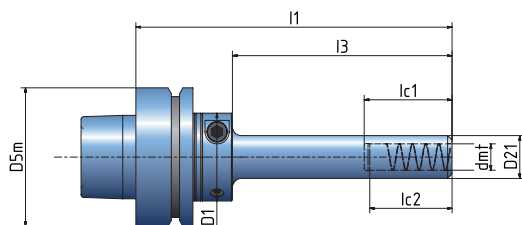
**PENCIL
DESIGN**



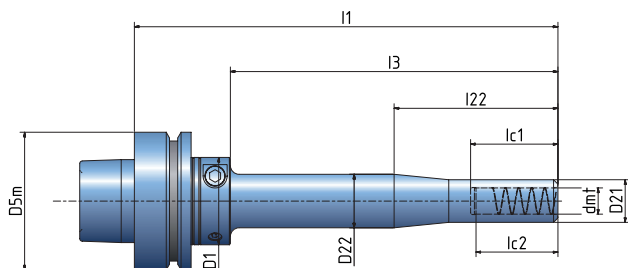
ETP HYDRO-GRIP® PENCIL HSK 63F

Hydraulic high precision toolholder – Pencil version

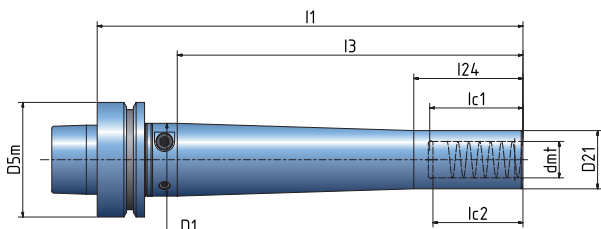
ETP HYDRO-GRIP® PENCIL is with its extreme slim design one of the most versatile holder on the market. An extensive range of standard dimensions and lengths optimizes your productivity when machining deep cavities and complex components.



Design 1



Design 2



Design 3

- Runout accuracy: ≤ 0.004 mm at $2.5 \times d_{mt}$ (max. 50 mm)
 ≤ 0.00016 inch at $2.5 \times d_{mt}$ (max. 1.969 inch)
 ≤ 0.007 mm at $2.5 \times d_{mt}$ at length $l_1 > 125$ mm
 ≤ 0.00028 inch at $2.5 \times d_{mt}$ at length > 4.921 inch
- Balancing grade: G 2.5 at corresponding rpm - see in table below
- Tool shank h6 or h7 can be used
- Can be used with reduction sleeves

ETP HYDRO-GRIP® PENCIL HSK 63F

Hydraulic high precision toolholder – Pencil version

Technical specification ETP HYDRO-GRIP® PENCIL HSK 63F

Design	Part no.	Item description	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}	Max rpm
1	684400	HG PENCIL-6x50/HSK63F	63	6	40	12		94	50				40	30	25 000
1	684440	HG PENCIL-12x50/HSK63F	63	12	40	19,5		94	50				40	37	25 000
1	684450	HG PENCIL-12x100/HSK63F	63	12	40	19,5		144	100				40	37	15 000
2	684460	HG PENCIL-12x150/HSK63F	63	12	40	19,5	24,5	194	150	50	75		40	37	10 000
3	684490	HG PENCIL-20x110/HSK63F	63	20	40	32		154	110			60	52	49	20 000
3	684500	HG PENCIL-20x190/HSK63F	63	20	40	32		234	190			60	52	49	10 000
1	684540	HG PENCIL-1/2"x50/HSK63F	63	12,7	40	19,5		94	50				40	37	25 000
1	684550	HG PENCIL-1/2"x100/HSK63F	63	12,7	40	19,5		144	100				40	37	15 000
2	684560	HG PENCIL-1/2"x150/HSK63F	63	12,7	40	19,5	24,5	194	150	50	75		40	37	10 000
3	684590	HG PENCIL-3/4"x110/HSK63F	63	19,05	40	32		154	110			60	52	49	20 000
3	684600	HG PENCIL-3/4"x190/HSK63F	63	19,05	40	32		234	190			60	52	49	10 000

● From stock

l_1 = programming length