Technical information and advantages

Our 4-point clamping system is suitable for radial manual clamping. Primarily designed for installation in spindles (short drilling spindles, multiple-spindle drilling heads). Most prominent features:

- **simple and hence more economic spindle manufacture**
- **short, small diameter spindles with constricted spindle bearing spacing.**

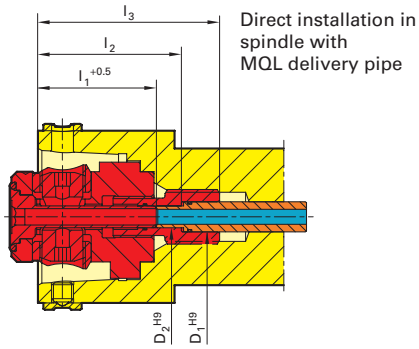
Two clamping segments displaced by 180° with 2 clamping planes each are uniformly moved outwards with a differential threaded spindle, thereby generating the necessary clamping force.

For conventional cooling our 4-point clamping sets are suitable for a pressure up to 80 bar.

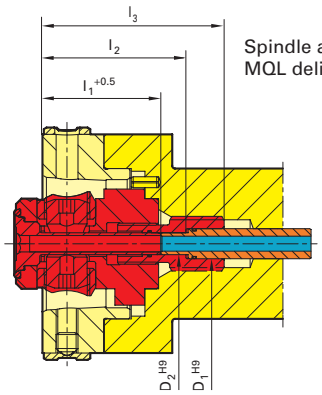
We have included a new 4-point clamping set in the GM 300 progam specifically for the application with MQL and with our MQL optimised tools. The set offers the following special features and advantages:

- **A central, coaxial minimal quantity lubrication duct with a consistent internal diameter ensures a MQL coolant delivery to the tool without coolant pockets and offers quick operating times.**
- **Naturally, the fitting contour and application is compatible with our 4-point clamping set for conventional cooling applications.**

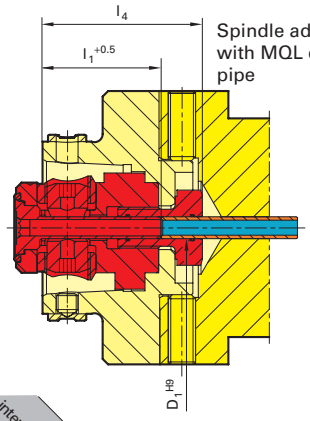
MQL 4-point clamping set connection dimensions for new designs



Direct installation in spindle with MQL delivery pipe



Spindle adaptor with MQL delivery pipe



Spindle adaptor with MQL delivery pipe

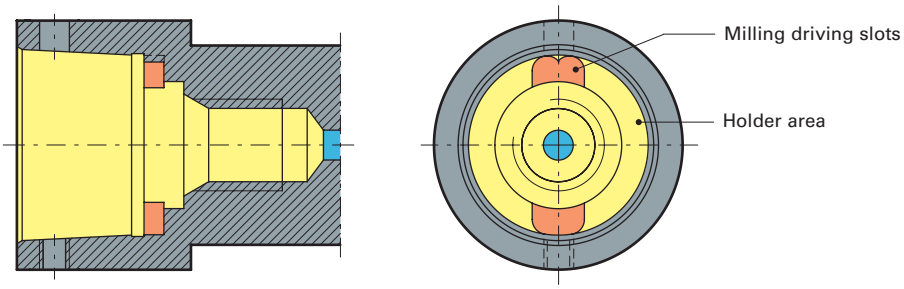
for HSK code	holder-Ø in retention spindle D1/H9	fitting-Ø in retention spindle D2/H9	ejector position $l_1^{+0.5}$	stop coolant delivery pipe l_2	threading depth retention spindle l_3	internal-Ø of retention spindle l_4
32 24,000	4	4	31.8	-	39.8	36.0
40 30,000	7	5	30.5	34.8	41.8	39.0
50 38,000	9	6	35.8	41.8	49.5	46.5
63 48,000	11	8	43.3	52.5	66.5	58.5
80 60,000	13	10	53.9	69.9	85.9	71.1
100 75,000	15	12	67.9	85.5	105.5	89.0

Measure without tolerance to DIN ISO 2768 M

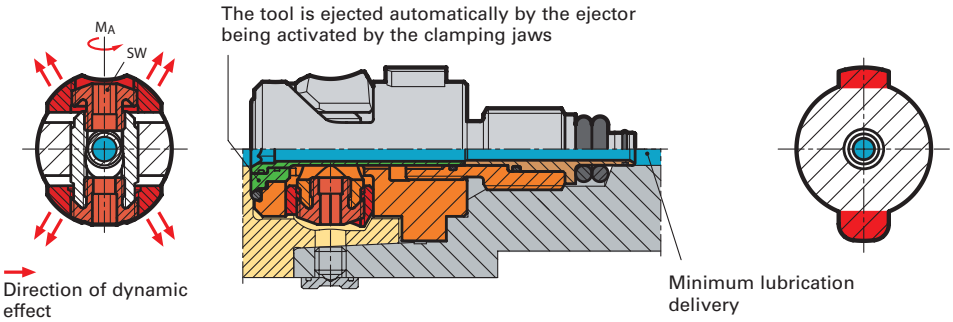
Technical information and advantages

General notes: Our manual clamping sets must **not** be operated with motor-driven tools (impulse screwdriver or similar). The haxagonal key should not exceed the key size over its entire length, this largely prevents excessive torque being transferred. We recommend the T-handle hexagonal key, Guhring no. 4912. For accurate setting of the maximum torque and achieving the maximum interface rigidity, we recommend the application of a torque wrench, Guhring no. 4915 with hexagonal sockets, Guhring no. 4916. Production drawings of the spindle contour to suit direct installation are available on request, including .dxf.

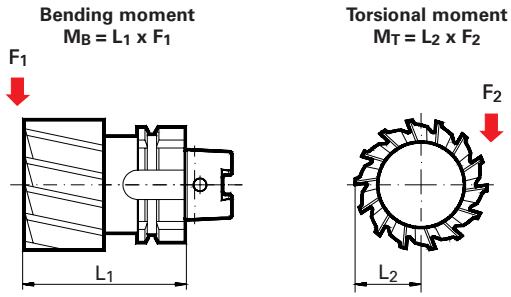
Internal contour of spindle



Installation and principle of operation



Bending, torsional and tightening moment for 4-point clamping sets for MQL



① We recommend M_A max. for rough machining and milling operations. For drilling and reaming operations a lower deviation of M_A max. up to 30% is permissible. Please check the torque with a torque wrench.
② Depending on temperature and lubricating conditions these values can be up to 15% lower.
③ Due to the screwed connection, M_T max. can be lower with adaptors.

HSK-C	**max.** torque M_A [Nm] ①	Key size	**max.** drawing force [kN] ②	**max.** linear bending moment M_B [Nm] ②	**max.** transferrable torsional moment M_T [Nm] ② ③
32	3.0	2.5	8.5	72	105
40	6.0	3.0	12.5	135	180
50	12.0	4.0	24.0	330	390
63	24.0	5.0	32.0	570	680
80	40.0	6.0	45.0	1000	1570
100	60.0	8.0	53.0	1620	4200