

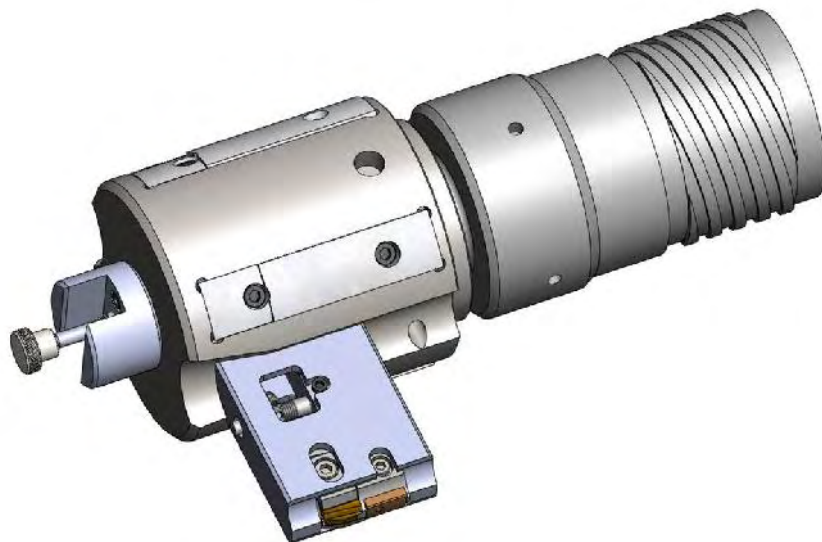
Skiving / Float Reaming Tooling System



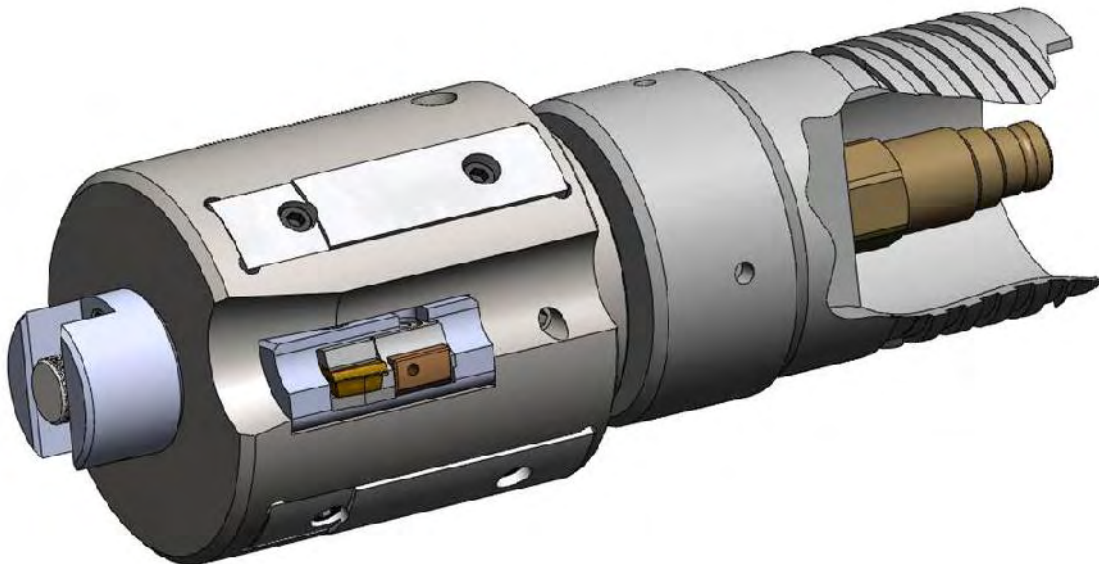
Introduction to Skive / Float Reaming tooling

The basic principle behind Skiving is the tool body holds a floating cutter magazine with two cartridges & inserts that oppose one another & have diametrical adjustment of .080" - .118" depending on the tool diameter. These tools are designed to follow the parts existing hole & give you uniformed size, finish, & wall thickness & produces a geometrically true round bore.

On a BTA style drilling machine this tool can be designed to function manually or hydraulically actuated. The manual tool size is preset to size & starts out of a bushing & chips & coolant are flushed forward in front of the tool. When the tool finishes the bore the tool is extended through the part & the cutter magazine is removed by pulling on a pin at the end of the tool releasing the magazine. The tool then exits back through the bore leaving a clean hole minus leaving any cutter drag lines in the ID bore.

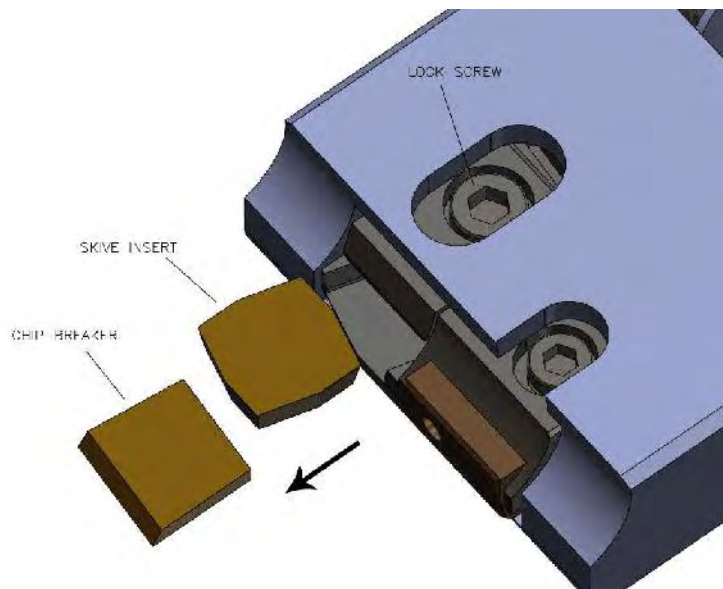


The hydraulically actuated tooling functions as follows: An external hydraulic power pack is connected to the drill tube via a hydraulic quick disconnect fitting & hydraulic oil fills the ID of the drill tube. At the threaded end of the tube there is a hydraulic female quick disconnect fitting which connects to a male fitting on the tool body. The tool starts out of a bushing & prior to feeding the tool through the part the hydraulic pressure is introduced to the tool & the cutters feed out to size. When the tool completes the bore the hydraulics are released from the tool collapsing the cutters so you do not leave a drag line in the ID of the part.

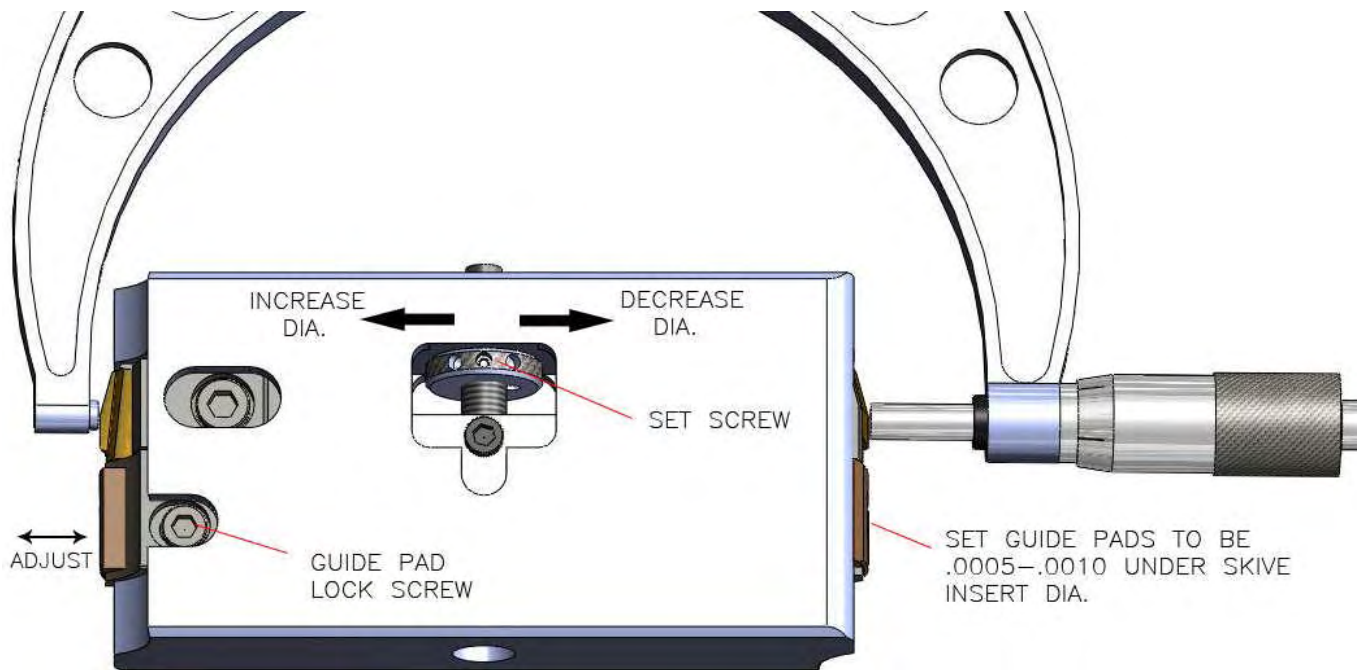


Because of the tool design having double effective cutting edges with shallow approach angles you are able to feed these tools extremely fast “.040 -.150 IPR”. Depending on part material & wall thickness Skive tools are capable of producing ID size tolerance within +/- .001” on diameter. Also part surface finish can range from 32-60 Ra micro inches often reducing honing operations.

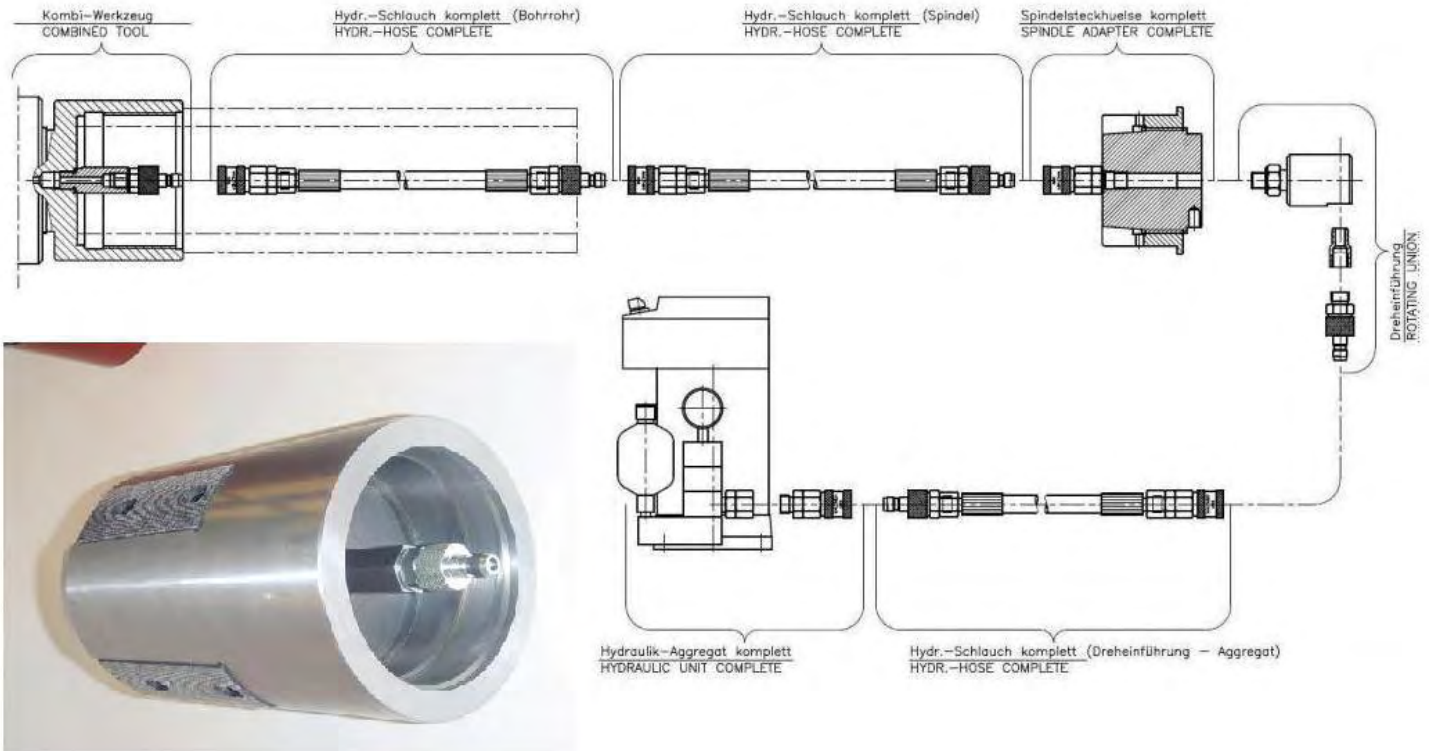
The tooling is designed with cost effective indexable inserts which have 4 cutting edges with multiple grade & coating options. An adjustable chip breaker is used & the breaker width can easily be adjusted for optimal chip control on the industry’s most stubborn materials.



Cutter magazine with cartridge, insert, & chip breaker



Adjustable cutter magazine setting instructions



Hydraulic Actuation Skive System



Skive Feed & Speed data

Bore Dia.	SFPM	RPM	Feed Per/Rev. (IPR)	Feed Per/Min. (IPM)	Net Cutting HP	Coolant Volume (GPM)	Coolant Pressure (PSI)
1.500"	600/700	1528/1783	.060-.080	122-143	2.5	38	125-150
2.000"	800/900	1528/1719	.070-.090	107-155	3	50	125-150
2.500	900/1100	1375/1680	.080-.100	110-168	4.5	63	120-150
3.000	900/1100	1146/1400	.080-.110	92-154	5.5	75	120-150
3.500	900/1100	982/1200	.080-.120	79-144	6.5	88	120-150
4.000	900/1100	860/1050	.080-.125	69-131	7.5	100	100-130
4.500	900/1100	764/934	.080-.125	61-117	8.5	113	90-120
5.000	900/1100	688/840	.085-.150	55-126	8.7	125	80-120
5.500	900/1100	625/764	.085-.150	53-115	9	138	75-110
6.000	900/1100	573/700	.090-.150	52-105	9.5	150	70-100
6.500	900/1100	529/646	.090-.150	48-97	9.7	163	70-100
7.000	900/1100	491/600	.100-.150	49-90	9.8	175	70-100
7.500	900/1100	458/560	.100-.150	46-84	10.2	188	70-100
8.000	900/1100	430/525	.100-.150	43-79	10.5	200	70-100
8.500	900/1100	404/494	.100-.150	40-74	10.9	213	60-100
9.000	900/1100	382/467	.100-.150	38-70	11.5	225	50-90
9.500	900/1100	362/442	.100-.150	36-66	12	238	50-90
10.000	900/1100	344/420	.100-.150	34-63	13	250	40-80
10.500	900/1100	327/400	.100-.150	33-60	13.2	263	40-80
11.000	900/1100	312/382	.100-.150	31-57	13.5	275	40-75
11.500	900/1100	300/365	.100-.150	30-55	14	288	40-70
12.000	900/1100	286/350	.100-.150	29-53	15	300	40-70

*When running 4130 or 4140 steel multiply SFPM x .6