SYNCHRO TAP HOLDER
MODEL SYFN, SYFS

INFINITESIMAL FLOATING SYNCHRONIZED TAP HOLDER

Screw processing is processed by self-propelled rotation of one rotation and one pitch, so there is no stability of screw precision (angle) and blade life unless it is 100% synchronized. Gauge is also required for screw precision, but unless angle and circularity are out, it can not be said that the accuracy of first and second grade is high. Machine and tap as well as manufacturing, because there is processing tolerance, it is impossible to make it 100%, so tap holder with minute stretch and radial float mechanism is necessary.

POINT 1

Compensates for synchronous error

It compensates for synchronous error not only axially,but also radially. Infinitesimal radial error caused by machining can be corrected by the original mechanism.
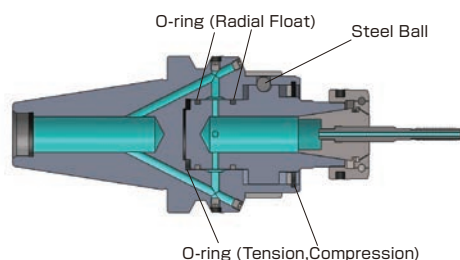
POINT 2

Structure

Maintenance is not needed by using durable O-ring. Since through-the-tool coolant and also alongside-the cutter coolant can be applicable, standard tap can be usable as well.
Maximum coolant pressure of
   SYFN : 7 M pa is applicable.
   SYFS : 5 M pa is applicable.

O-ring (Radial Float)　　Steel Ball

O-ring (Tension,Compression)

POINT 3

Tap holder for small diameter

Tap holder for small diameter doesn't clamp tap by collet, but clamps tap directly, and this makes it possible to avoid breakage of M1, M1.6 and M2, too.

Acceptable tap size

HOLDER	COLLET	JIS TAP SIZE
SYFS02	—	M1、M1.6、M2、No3、No4
SYFS03	—	M3、No5、No6
SYFN12	CR13GB/GH	M4〜M12、No8〜U1/2、P1/8
SYFN20	CR20GB/GH	M4〜M20、U5/16〜U5/8、P1/8〜P3/8

Machining Performance

Test cut with synchro tap holder and collet chuck with the same program.

Difference when processing resin material

Left: Synchro tap holder SYFN type has good thread
thread accuracy, and transparency is high because
the load on the cutter is reduced.
Right: In the fixed holder (collet chuck), transparency is low.

With the Synchro Tap infinitesimal float is used,
increasing the degree of transparency,
thereby illustrating the accurancy of threads are improved.

Left:SYFN   Right:Collet Chuck

Difference when small diameter tapping.

Work	R6-Block	
Material	Aluminum	
Holders	BT30-EDC06-090	BT30-SYFS02-095
Cutting tools	M1.6×0.35 TAP	
Cutting conditions	N=260min-1 F=910min/min	
Life	Exchange in about 200 holes (requiring regrinding)	Exchange in about 200 holes (requiring regrinding)
Effect	Improvement of cutting tool life (about twice)	

DIMENSIONS **BT ‣ P.63 | SK ‣ P.103-105 | HSK ‣ P.130**