



IMI MACHINE TOOLS PVT. LTD.

CATALOGUE 2019



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## Quick Change Tapping Chucks

For use on CNC machining center, CNC turning center, center lathe, drilling machine, length compensation acting on compression and expansion to compensate for differences between spindle feed and pitch of thread. The chuck is equipped with pressure point mechanism to increase the cutting pressure to ensure positive start when tapping cycle commences.

## Tap Adaptors

Quick Change Tap Adaptors for Tapping and Thread Forming

By using quality combination of IMI tap adaptors and IMI tap chucks, Tools changing time can be minimized. The adaptors are designed for optimum efficiency. Removal and replacement in the chuck is rapid and location and locking of the tap in the adaptor is simple and effective. In all cases the tap drive is through the square. The highly popular adjustable safety clutch adaptor, Facilitates the avoidance of tap breakage. In all cases a different adaptors is required for each size tap shank.

## CNC Tool Holder

Accurate tool holders in HSK (DIN - 69893) and POLYGON TAPER (ISO - 26623) ensures high quality tool holding and precise machining capabilities with increase tool life.

IMI modular tooling in PTI (ISO - 26623) POLYGON TAPERS for flexibility in tooling systems. IMI PTI EXTENSIONS are available in various shank like BT, SK, ISO, HSK etc.

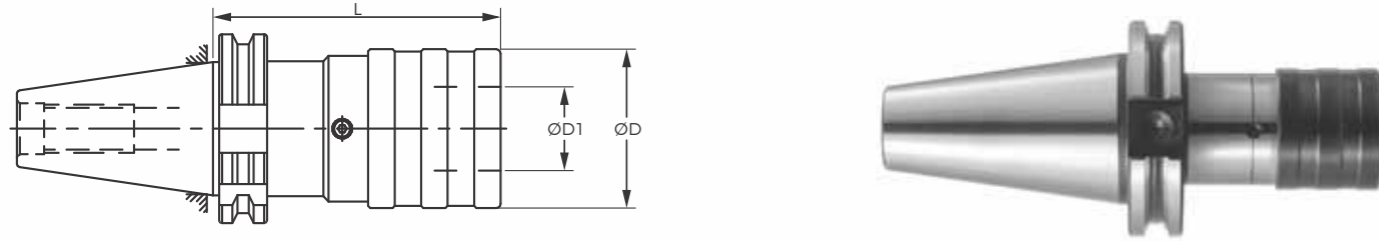
WE are also manufacturing extensions as per customer requirement.

Shank like CAT, ANSI / DIN / ISO are available.



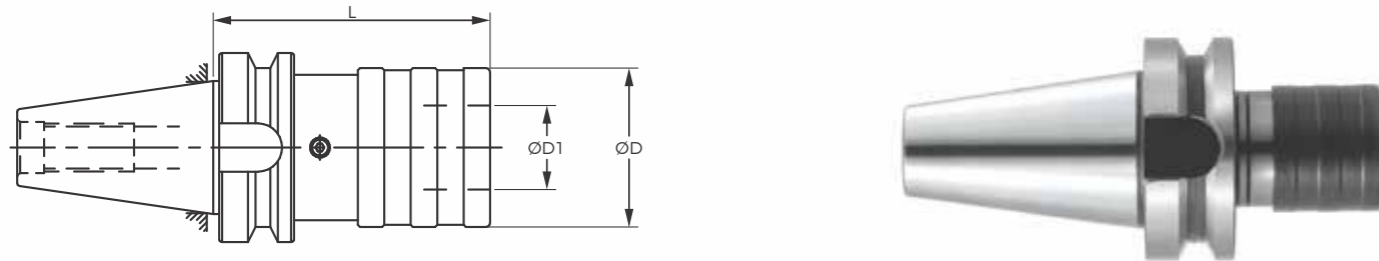
**QUICK CHANGE TAPPING CHUCKS**  
with length compensation on compression and expansion  
**MODEL QCLK**

MODEL : QCLK / SK (DIN-69871)



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD1	Ordering Number & L Taper DIN 69871		
			Comp.	Exp.			SK 40	SK 45	SK 50
QCLK 1	M 3-M12	1	7,5	7,5	36	19	20,231,020 L-60	20,231,030 L-60	20,231,040 L-74
QCLK 2	M 8-M20	2	12,5	12,5	53	31	20,232,020 L-98	20,232,030 L-84	20,232,040 L-84
QCLK 3	M14-M33	3	20	20	78	48	20,233,020 L-150	20,233,030 L-146	20,233,040 L-139
QCLK 4	M22-M48	4	22,5	22,5	96	60	20,234,020 L-166	20,234,030 L-161	20,234,040 L-153

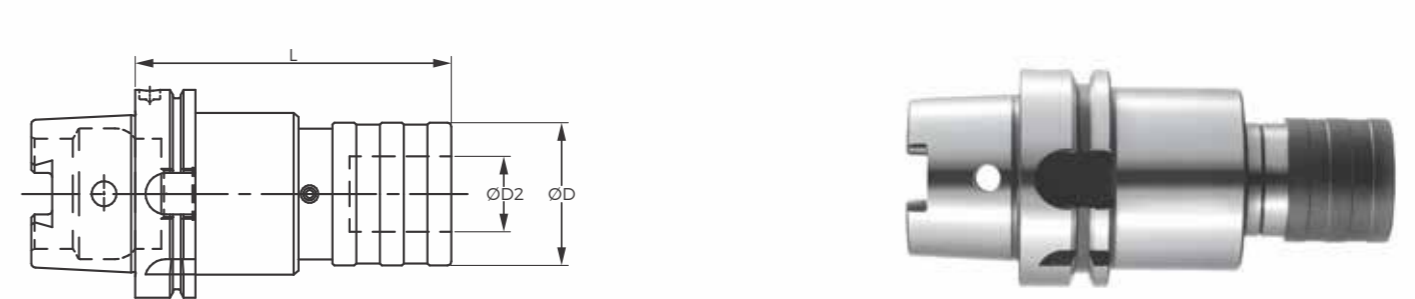
MODEL : QCLK / BT (MAS 403)



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD1	Ordering Number & L Taper MAS 403		
			Comp.	Exp.			BT 40	BT 45	BT 50
QCLK 1	M 3-M12	1	7,5	7,5	36	19	20,211,020 L-67,5	20,211,030 L-73,5	20,211,040 L-78,5
QCLK 2	M 8-M20	2	12,5	12,5	53	31	20,212,020 L-94,5	20,212,030 L-97,5	20,212,040 L-102,5
QCLK 3	M14-M33	3	20	20	78	48	20,213,020 L-164	20,213,030 L-154,5	20,213,040 L-142
QCLK 4	M22-M48	4	22,5	22,5	96	60	20,214,020 L-167,5	20,214,030 L-172,5	20,214,040 L-165,5

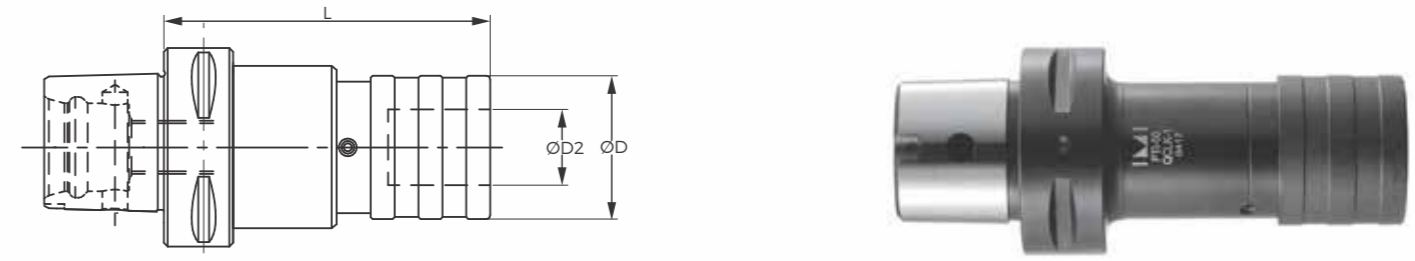
**QUICK CHANGE TAPPING CHUCKS**  
with length compensation on compression and expansion  
**MODEL QCLK**

MODEL : QCLK / HSK (DIN-69893 A)



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD2	Ordering Number & L Taper DIN 69893 A			
			Comp.	Exp.			HSK-50	HSK-63	HSK-80	HSK-100
QCLK 1	M 3-M12	1	7,50	7,50	36	19	26,161,030 L-104.00	26,161,040 L-105.75	26,161,050 L-110.50	26,161,060 L-112.50
QCLK 2	M 8-M20	2	12,50	12,50	53	31	26,162,030 L-140.00	26,162,040 L-141.70	26,162,050 L-146.50	26,162,060 L-148.50
QCLK 3	M14-M33	3	20,00	20,00	78	48			26,163,050 L-213.00	26,163,060 L-215.00

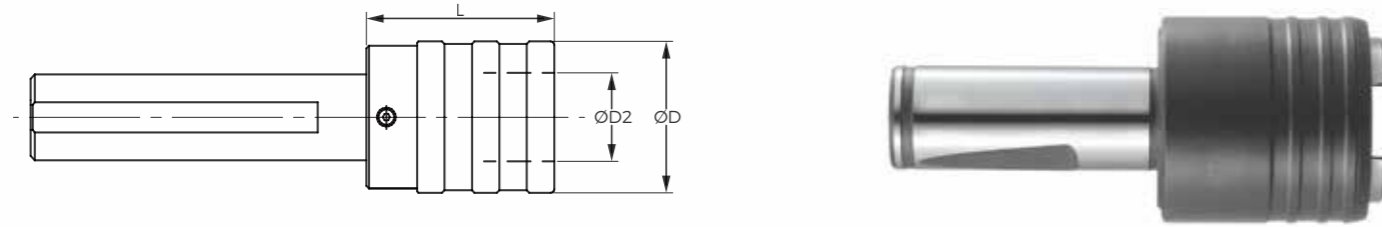
MODEL : QCLK / PTI (ISO-26623-1)



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD2	Ordering Number & L Taper ISO-26623				
			Comp.	Exp.			PTI-32	PTI-40	PTI-50	PTI-63	PTI-80
QCLK 1	M 3-M12	1	7,50	7,50	36	19	20,171,660 L-90.50	20,171,670 L-90.50	20,171,680 L-90.50	20,171,690 L-100.00	20,171,700 L-110.00
QCLK 2	M 8-M20	2	12,50	12,50	53	31		20,172,670 L-120.00	20,172,680 L-130.00	20,172,690 L-135.00	20,172,700 L-145.00
QCLK 3	M14-M33	3	20,00	20,00	78	48				20,173,690 L-170.00	20,173,700 L-160.00

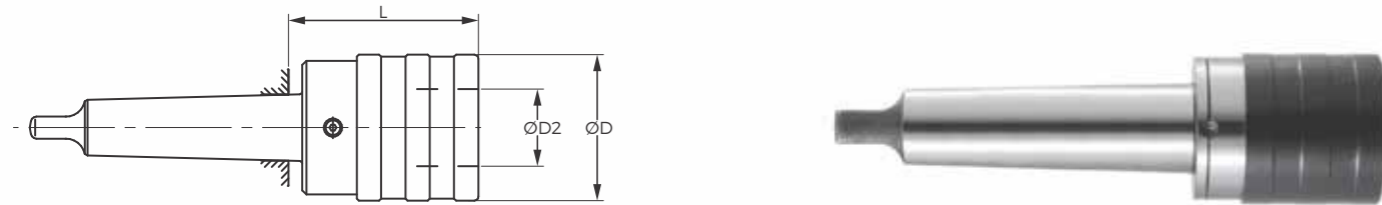
**QUICK CHANGE TAPPING CHUCKS**  
with length compensation on compression and expansion  
**MODEL QCLK**

MODEL : QCLK / ST.



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD2	Ordering Number & L Straight Shank				
			Comp.	Exp.			Ø25	Ø30	Ø32	Ø40	Ø50
QCLK 1/St	M 3-M12	1	7,5	7,5	36	19	20,321,100 L-40	20,321,130 L-40	20,321,140 L-40	20,321,180 L-40	20,321,220 L-40
QCLK 2/St	M 8-M20	2	12,5	12,5	53	31	20,322,100 L-64	20,322,130 L-64	20,322,140 L-64	20,322,180 L-64	20,322,220 L-64
QCLK 3/St	M14-M33	3	20	20	78	48		20,323,130 L-97	20,323,140 L-97	20,323,180 L-97	20,323,220 L-97
QCLK 4/St	M22-M48	4	22,5	22,5	96	60				20,324,180 L-108	20,324,220 L-108

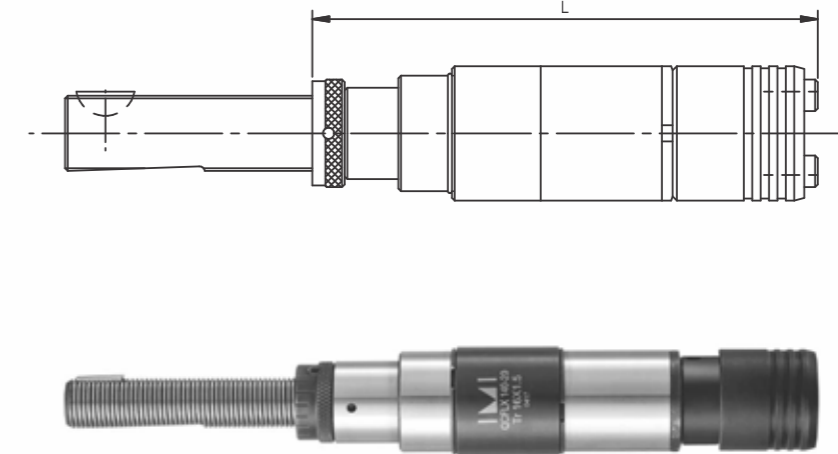
MODEL : QCLK / MT (DIN 228 B/IS 1715)



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD2	Ordering Number & L Mores Taper DIN 228 B/IS 1715				
			Comp.	Exp.			MT 2	MT 3	MT 4	MT 5	MT 6
QCLK 0	M 1-M10	0	6,5	6,5	26	13	20,100,020 L-45				
QCLK 1	M 3-M12	1	7,5	7,5	36	19	20,101,020 L-47	20,101,030 L-47			
QCLK 2	M 8-M20	2	12,5	12,5	53	31		20,102,030 L-71	20,102,040 L-72		
QCLK 3	M14-M33	3	20	20	78	48			20,103,040 L-105	20,103,050 L-105,5	
QCLK 4	M22-M48	4	22,5	22,5	96	60				20,104,050 L-116,5	20,104,060 L-118,5

**QUICK CHANGE TAPPING CHUCKS**  
with length compensation on compression and expansion radial parallel float  
**MODEL QCFLX**

MODEL : QCFLX / Tr (DIN 6327)



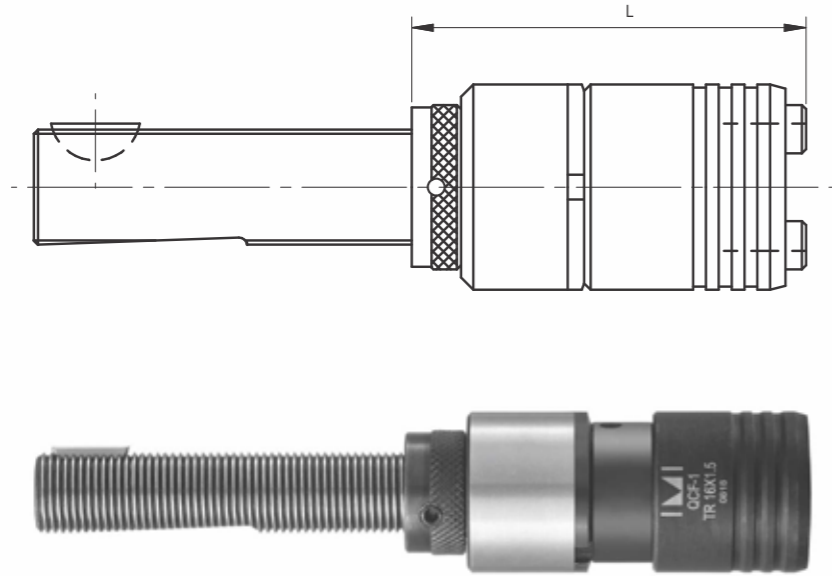
Model	for Taps	Max Ø	Length Compensation		Suitable Adaptors Size	Ordering Number & L Trapezoidal Shank DIN 6327				
			Comp.	Exp.		Tr 16 x 1,50	Tr 20 x 2	Tr 28 x 2	Tr 36 x 2	Tr 48 x 2
QCFLX-030-15	M1-M10	23	15	15	0	18,300,051 L-136.00	18,300,081 L-136.00			
QCFLX-140-20	M3-M12	32	20	20	1	18,301,051 L-162.50	18,301,081 L-162.50	18,301,131 L-162.50		
QCFLX-240-20	M8-M20	50	20	20	2		18,302,081 L-188.00	18,302,031 L-188.00	18,302,161 L-190.00	
QCFLX-340-20	M14-M33	72	20	20	3			18,303,131 L-244.00	18,303,161 L-246.00	
QCFLX-460-30	M22-M48	95	30	30	4				18,304,161 L-312.00	18,304,201 L-316.00

## QUICK CHANGE TAPPING CHUCKS

with radial parallel float

### MODEL QCF

MODEL : QCF/Tr (DIN 6327)



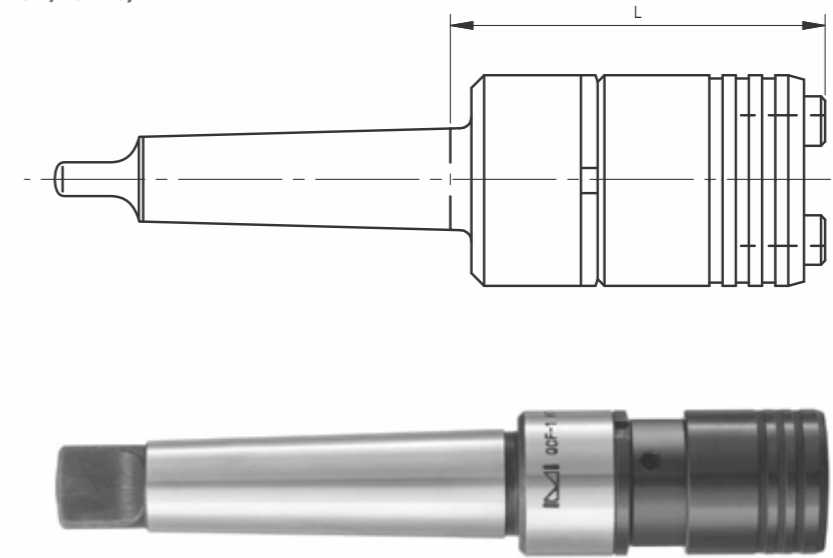
Model	for Taps	Max $\phi$	Float	Suitable Adaptors Size	Ordering Number & L Trapezoidal Shank DIN 6327				
					Tr 16 x 1.50	Tr 20 x 2	Tr 28 x 2	Tr 36 x 2	Tr 48 x 2
QCF 0	M1-M10	23	0.25	0	14,300,050 L-67.00	14,300,080 L-67.00			
QCF 1	M3-M12	32	0.50	1	14,301,050 L-78.50	14,301,080 L-78.50	14,301,130 L-78.50		
QCF 2	M8-M20	50	1.00	2		14,302,080 L-96.00	14,302,130 L-96.00	14,302,160 L-98.00	
QCF 3	M14-M33	72	1.50	3			14,303,130 L-136.00	14,303,160 L-138.00	14,303,200 L-142.00
QCF 4	M22-M48	95	2.00	4				14,304,160 L-167.00	14,304,200 L-171.00
QCF 40	M6-M18	40	0.75	40		14,307,080 L-89.00	14,307,130 L-89.00		

## QUICK CHANGE TAPPING CHUCKS

with radial parallel float

### MODEL QCF

MODEL : QCF / MT (DIN 228B / IS 1715)



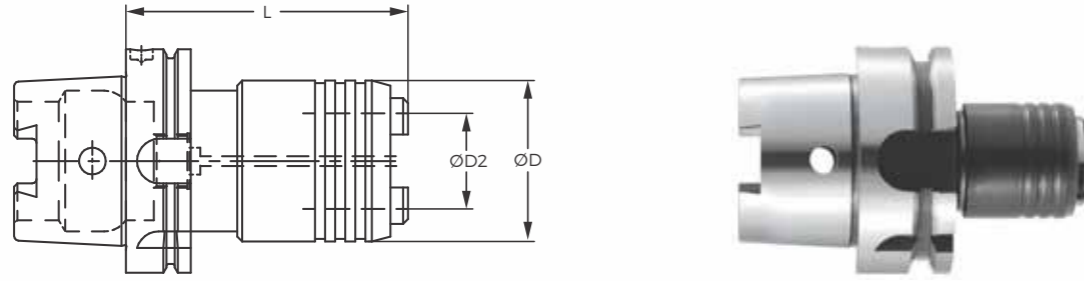
Model	for Taps	Max $\phi$	Float	Suitable Adaptors Size	Ordering Number & L Morse Taper DIN 228B / IS 1715				
					MT-1	MT-2	MT-3	MT-4	MT-5
QCF 0	M1-M10	23	0.25	0	14,100,010 L-61.00	14,100,020 L-62.00			
QCF 1	M3-M12	32	0.50	1	14,101,010 L-72.50	14,101,020 L-73.50	14,101,030 L-73.50		
QCF 2	M8-M20	50	1.00	2		14,102,020 L-91.00	14,102,030 L-91.00	14,102,040 L-92.00	
QCF 3	M14-M33	72	1.50	3			14,103,030 L-131.00	14,103,040 L-132.00	14,103,050 L-133.00
QCF 4	M22-M48	95	2.00	4				14,104,040 L-161.00	14,104,050 L-162.00
QCF 40	M6-M18	40	0.75	40		14,107,020 L-84.00	14,107,030 L-84.00		

## QUICK CHANGE TAPPING CHUCKS

for rigid tapping cycle

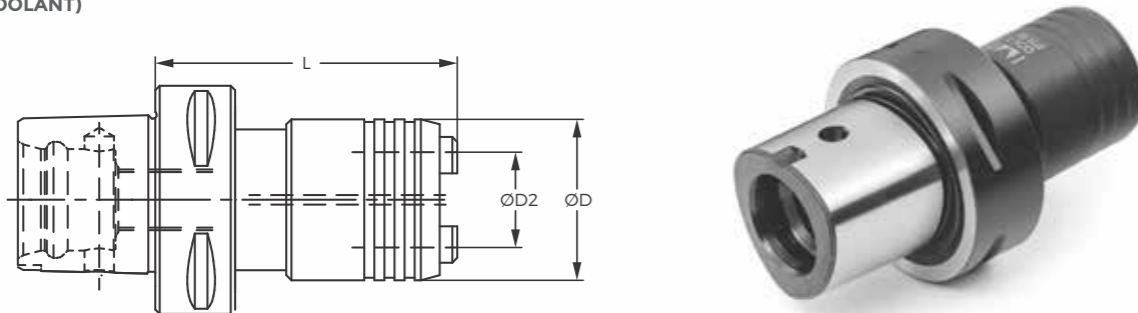
**MODEL QCK - IK**

MODEL : QCK - IK / HSK (DIN 69893, A+C)  
(THRU. COOLANT)



Model	Ordering No.	For Taps	ØD	ØD2	Suitable Adaptor	L
HSK-50	QCK-1-1K	M 3-M12	32	19	1	80
	QCK-2-1K	M 8-M20	50	31	2	100
HSK-63	QCK-1-1K	M 3-M12	32	19	1	85
	QCK-2-1K	M 8-M20	50	31	2	100
HSK-100	QCK-1-1K	M 3-M12	32	19	1	90
	QCK-2-1K	M 8-M20	50	31	2	110
	QCK-3-1K	M14-M33	72	48	3	150

MODEL QCK / IK / PTI (ISO-26623-1)  
(THRU. COOLANT)



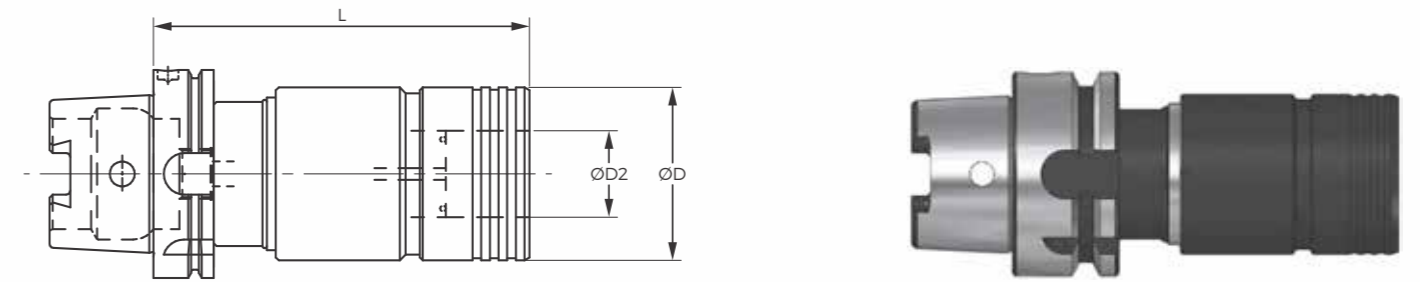
Model	Ordering No.	For Taps	ØD	ØD2	Suitable Adaptor	L
PTI-50	QCK-1-1K	M 3-M12	32	19	1	80
	QCK-2-1K	M 8-M20	50	31	2	100
PTI-63	QCK-1-1K	M 3-M12	32	19	1	85
	QCK-2-1K	M 8-M20	50	31	2	100
PTI-80	QCK-1-1K	M 3-M12	32	19	1	90
	QCK-2-1K	M 8-M20	50	31	2	110
	QCK-3-1K	M14-M33	72	48	3	150

## QUICK CHANGE TAPPING CHUCKS

with length compensation on compression and expansion

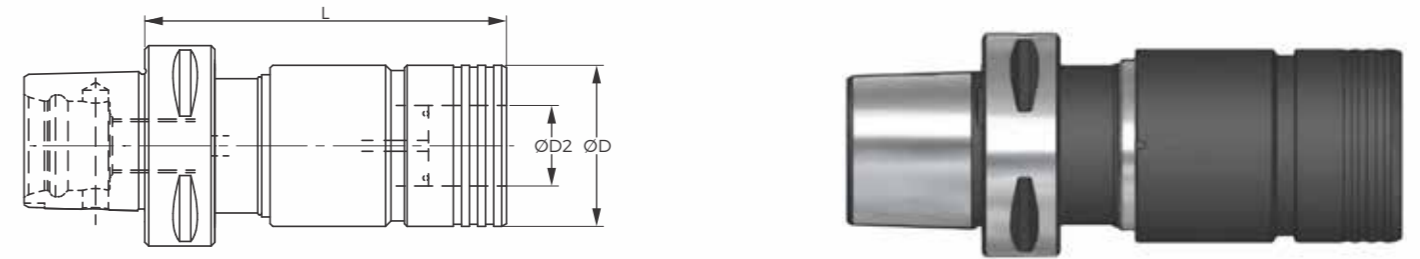
**MODEL QCLC - IK**

MODEL : QCLC - IK / HSK (DIN 69893 A)  
50 BAR PRESSURE



Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD2	Ordering Number & L Taper DIN 69893 A			
			Comp.	Exp.			HSK-50	HSK-63	HSK-80	HSK-100
QCLC 115-1K	M3-M12	1	7.50	7.50	39	19	C26,161,030 L-103.00	C26,161,040 L-105.00	C26,161,050 L-110.00	C26,161,060 L-112.00
QCLC 220-1K	M8-M20	2	10.00	10.00	60	31	C26,162,030 L-140.00	C26,162,040 L-140.00	C26,162,050 L-142.00	C26,162,060 L-144.00
QCLC 335-1K	M14-M33	3	17.50	17.50	86	48			C26,163,050 L-208.00	C26,163,060 L-210.00

MODEL : QCLC - IK / PTI (ISO-26623-1)  
50 BAR PRESSURE



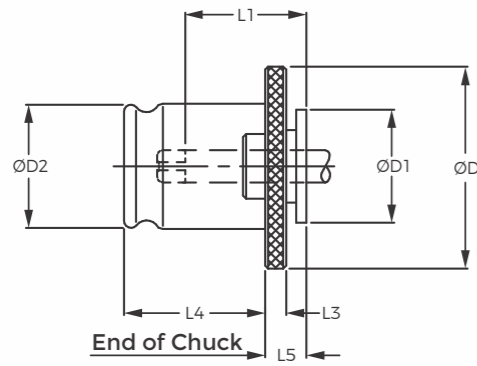
Model	for Taps	Suitable Adaptors Size	Length Compensation		ØD	ØD2	Ordering Number & L Taper DIN 69893 A			
			Comp.	Exp.			PTI-50	PTI-63	PTI-80	PTI-80X
QCLC 115-1K	M3 - M12	1	7.50	7.50	39	19	C26,161,680 L-103.00	C26,161,690 L-105.00	C26,161,700 L-110.00	C26,161,570 L-112.00
QCLC 220-1K	M8 - M20	2	10.00	10.00	60	31	C26,162,680 L-140.00	C26,162,690 L-140.00	C26,162,700 L-142.00	C26,162,570 L-144.00
QCLC 335-1K	M14 - M33	3	17.50	17.50	86	48		C26,163,690 L-203.00	C26,163,700 L-208.00	C26,163,570 L-210.00



## QUICK CHANGE TAPPING CHUCKS

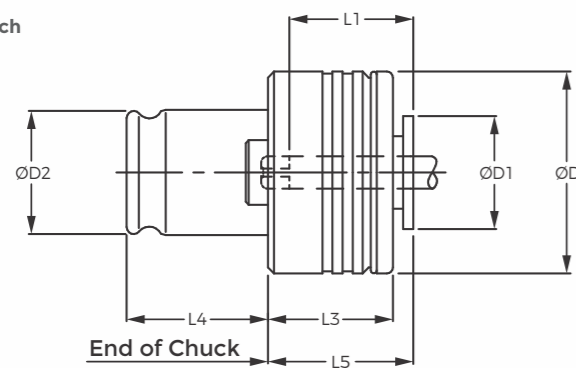
### MODEL QA / QASB

MODEL : QA  
without safety clutch



Model	Ordering Number	for Taps		Suitable for Chuck Size	ØD	ØD1	ØD2	L1	L3	L4	L5
		Thread Ø	Shank Ø								
QA 0	40.000....	M1-M10	2.5-7.2	0	22	13	13	15	4	19.50	7
QA 1	40.100....	M3-M12	3.5-11.3	1 and 32	30	19	19	17	4	21.50	7
QA 2	40.200....	M8-M20	7-18	2	48	30	31	30	5	35	11
QA 3	40.300....	M14-M33	11-28	3	70	48	48	44	6	55.50	14
QA 4	40.400....	M22-M48	18-36	4	92	60	60	71	13	63	42
QA 5	40.500....	M33-M52	25-42	5	114	70	78	95	13	92	44
QA 5a	40.500....	M56-M68	>42-56	5	114	90	78	95	13	92	108
QA 40	40.700....	M6-M18	6-14	40	40	25	26	30	5	32	13

MODEL : QASB  
with safety clutch



Model	Ordering Number	for Taps		Suitable for Chuck Size	ØD	ØD1	ØD2	L1	L3	L4	L5
		Thread Ø	Shank Ø								
QASB 0	41.000....	M1-M10	2.5-7.2	0	23	13	13	15	20	19.50	21
QASB 1	41.100....	M3-M12	3.5-11.3	1	32	19	19	17	25	21.50	25
QASB 2	41.200....	M8-M20	7-18	2	50	30	31	30	31	35	34
QASB 3	41.300....	M14-M33	11-28	3	72	48	48	44	41	55.50	45
QASB 4	41.400....	M22-M48	18-36	4	95	60	60	71	61	63	68
QASB 5	41.500....	M33-M68	25-56	5	130	90	78	95	107	92	122
QASB 40	41.700....	M6-M18	6-14	40	40	25	26	30	27	32	30

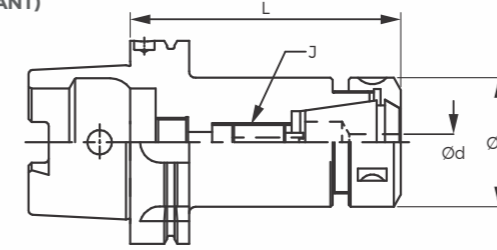
\*\*\* In Ordering No. mention last three digits for Shank dia. and Square size from page no.29 & 30  
Also inform tap size for Torque Control Adaptor with ordering no.

## ER COLLET HOLDER (DIN 6499)



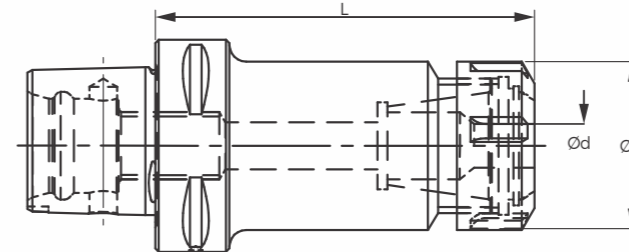
### MODEL CHE

MODEL : CHE / HSK (DIN 69893 A+C)  
(THRU. COOLANT)



Model	Ordering Number	Suitable ER Collet Size	Ød Range	J	ØD	L
HSK-63 CHE 16-90	87,274,118	ER-16	3 - 10	M10X1.50	28	90
HSK-63 CHE 25-90	87,274,318	ER-25	3 - 16	M16X2	42	90
HSK-63 CHE 32-100	87,274,420	ER-32	3 - 20	M18X1.50	50	100
HSK-63 CHE 40-120	87,274,524	ER-40	4 - 26	M22X1.50	63	120
HSK-100 CHE 32-100	87,276,420	ER-32	3 - 20	M18X1.50	50	100
HSK-100 CHE 40-120	87,276,524	ER-40	4 - 26	M22X1.50	63	120
HSK-100 CHE 50-130	87,276,626	ER-50	10 - 34	M22X1.50	78	130

MODEL : CHE / PTI (ISO-26623-1)  
(THRU. COOLANT)

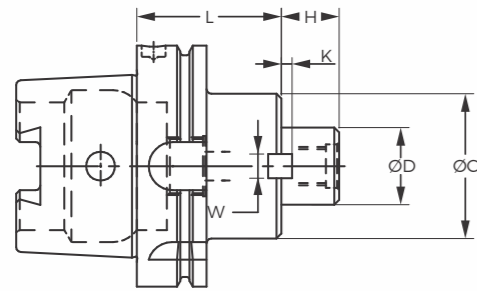


Model	Ordering Number	Suitable ER Collet Size	Clamping Range Ød	L	ØD
PTI50-CHE 11-60	87,268,012	ER-11	03 - 07	60	Ø19
PTI-50-CHE 11-100	872,68,020	ER-11	03 - 07	100	Ø19
PTI-50-CHE 16-60	87,268,112	ER-16	03 - 10	60	Ø28
PTI-50-CHE 16-100	87,268,120	ER-16	03 - 10	100	Ø28
PTI-50-CHE 20-70	87,268,214	ER-20	03 - 13	70	Ø34
PTI-50-CHE 20-100	87,268,220	ER-20	03 - 13	100	Ø34
PTI-50-CHE 25-90	87,268,318	ER-25	3 - 16	90	Ø42
PTI-50-CHE 32-100	87,268,420	ER-32	3 - 20	100	Ø50
PTI-63-CHE 11-60	87,269,012	ER-11	03 - 07	60	Ø19
PTI-63-CHE 11-100	87,269,020	ER-11	03 - 07	100	Ø19
PTI-63-CHE 16-60	87,269,112	ER-16	03 - 10	60	Ø28
PTI-63-CHE 16-100	87,269,120	ER-16	03 - 10	100	Ø28
PTI-63-CHE 20-70	87,269,214	ER-20	03 - 13	70	Ø34
PTI-63-CHE 20-100	87,269,220	ER-20	03 - 13	100	Ø34
PTI-63-CHE 25-90	87,269,318	ER-25	3 - 16	90	Ø42
PTI-63-CHE 32-100	87,269,420	ER-32	3 - 20	100	Ø50
PTI-63-CHE 40-120	87,269,524	ER-40	4 - 26	120	Ø63

## FACE MILL HOLDERS & TENON DRIVES (ISO 3937)

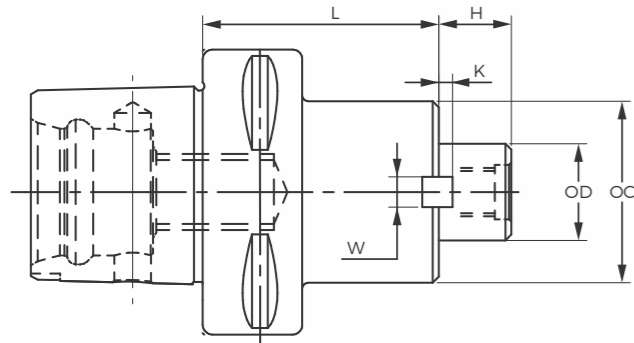
### MODEL FMC

MODEL : FMC / HSK (DIN 69893 A+C)



Model	Ordering Number	ØD	L	ØC	H	W	K
HSK-63 FMC 16-45	81.741.609	16	45	32	17	8	5.00
HSK-63 FMC 22-50	81.742.210	22	50	50	19	10	5.60
HSK-63 FMC 27-60	81.742.712	27	60	60	21	12	6.30
HSK-63 FMC 32-60	81.743.212	32	60	78	24	14	7.00
HSK-100 FMC 16-45	81.761.610	16	45	32	17	8	5.00
HSK-100 FMC 22-50	81.762.210	22	50	40	19	10	5.60
HSK-100 FMC 27-60	81.762.710	27	60	48	21	12	6.30
HSK-100 FMC 32-60	81.763.212	32	60	58	24	14	7.00
HSK-100 FMC 40-60	81.763.412	40	60	89	27	16	8.00

MODEL : FMC/PTI (ISO-26623-1)



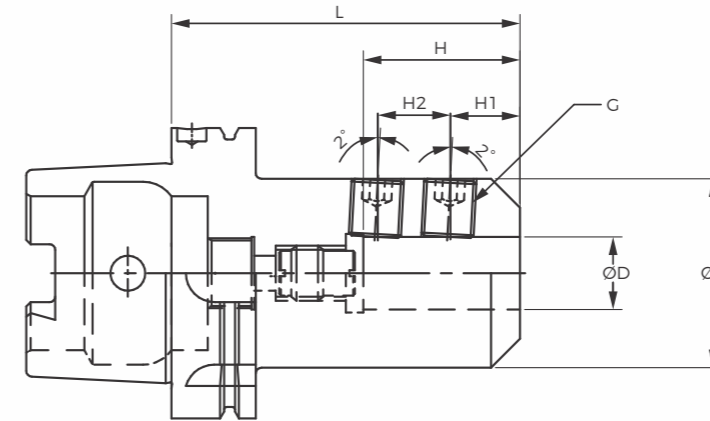
Model	Ordering Number	ØD	L	ØC	H	W	K
PTI-50 FMC 16-45	81.681.609	16	45	32	17	8	5.00
PTI-50 FMC 22-50	81.682.210	22	50	50	19	10	5.60
PTI-50 FMC 27-60	81.682.712	27	60	60	21	12	6.30
PTI-63 FMC 16-45	81.691.609	16	45	32	17	8	5.00
PTI-63 FMC 22-50	81.692.210	22	50	40	19	10	5.60
PTI-63 FMC 27-60	81.692.712	27	60	48	21	12	6.30
PTI-63 FMC 32-60	81.693.212	32	60	58	24	14	7.00
PTI-63 FMC 40-60	81.694.012	40	60	89	27	16	8.00

## SIDE LOCK HOLDER

whistle-notch style

### (DIN 1835/E) MODEL SLA

MODEL : SLA / HSK (DIN 69893 A+C)  
(THRU. COOLANT)



Model	Ordering Number	ØD	L	ØC	H	H1	H2	G
HSK-63 SLA 6-80	85.740.616	6	80	25	36	18	-	M6
HSK-63 SLA 8-80	85.740.816	8	80	28	36	18	-	M8
HSK-63 SLA 10-80	85.741.016	10	80	35	40	20	-	M10
HSK-63 SLA 12-90	85.741.218	12	90	42	45	22.50	-	M12
HSK-63 SLA 14-90	85.741.418	14	90	44	45	22.50	-	M12
HSK-63 SLA 16-100	85.741.620	16	100	48	48	24	-	M14
HSK-63 SLA 18-100	85.741.820	18	100	50	48	24	-	M14
HSK-63 SLA 20-100	85.742.020	20	100	52	50	25	-	M16
HSK-63 SLA 25-110	85.742.522	25	110	65	56	24	22	M18
HSK-63 SLA 32-115	85.743.223	32	115	72	60	24	24	M20
HSK-100 SLA 6-90	85.760.618	6	90	25	36	18	-	M6
HSK-100 SLA 8-90	85.760.818	8	90	28	36	18	-	M8
HSK-100 SLA 10-90	85.761.018	10	90	35	40	20	-	M10
HSK-100 SLA 12-100	85.761.220	12	100	42	45	22.50	-	M12
HSK-100 SLA 14-100	85.761.420	14	100	44	45	22.50	-	M12
HSK-100 SLA 16-100	85.761.620	16	100	48	48	24	-	M14
HSK-100 SLA 18-100	85.761.820	18	100	50	48	24	-	M14
HSK-100 SLA 20-110	85.762.022	20	110	52	50	25	-	M16
HSK-100 SLA 25-120	85.762.524	25	120	65	56	24	22	M18
HSK-100 SLA 32-120	85.763.224	32	120	72	60	24	24	M20
HSK-100 SLA 40-130	85.763.426	40	130	80	70	30	32	M20

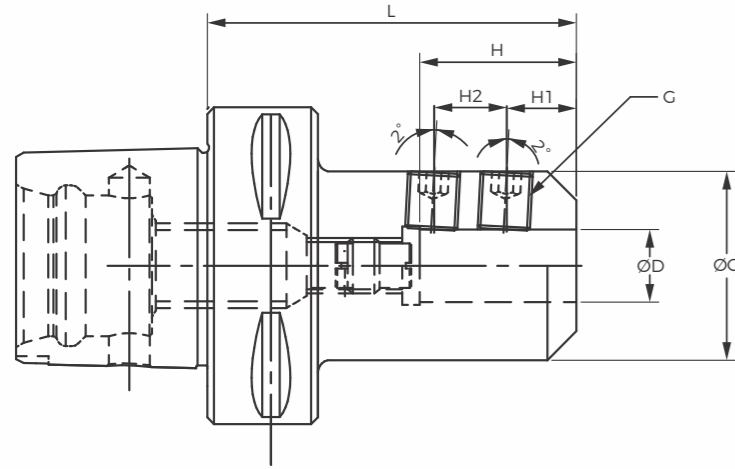


## SIDE LOCK HOLDER

whistle-notch style

(DIN 1835/E) MODEL SLA

MODEL : SLA / PTI (ISO 26623-1)  
(THRU. COOLANT)



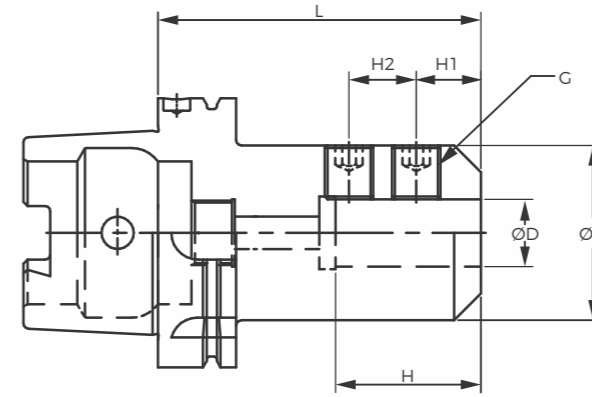
Model	Ordering Number	ØD	L	ØC	H	H1	H2	G
PTI-50 SLA 6-75	85.680.615	6	80	25	36	18	-	M6
PTI-50 SLA 8-80	85.680.816	8	80	28	36	18	-	M8
PTI-50 SLA 10-80	85.681.016	10	80	35	40	20	-	M10
PTI-50 SLA 12-80	85.681.216	12	80	42	45	22.50	-	M12
PTI-50 SLA 14-80	85.681.416	14	80	44	45	22.50	-	M12
PTI-50 SLA 16-80	85.681.616	16	80	48	48	24	-	M14
PTI-50 SLA 18-80	85.681.816	18	80	50	48	24	-	M14
PTI-50 SLA 20-85	85.682.017	20	85	52	50	25	-	M16
PTI-50 SLA 25-90	85.682.518	25	90	65	56	24	22	M18
PTI-50 SLA 32-90	85.683.218	32	90	72	60	24	24	M20
PTI-63 SLA 6-75	85.690.615	6	75	25	36	18	-	M6
PTI-63 SLA 8-80	85.690.816	8	80	28	36	18	-	M8
PTI-63 SLA 10-80	85.691.016	10	80	35	40	20	-	M10
PTI-63 SLA 12-80	85.691.216	12	80	42	45	22.50	-	M12
PTI-63 SLA 14-80	85.691.416	14	80	44	45	22.50	-	M12
PTI-63 SLA 16-80	85.691.616	16	80	48	48	24	-	M14
PTI-63 SLA 18-80	85.691.816	18	80	50	48	24	-	M14
PTI-63 SLA 20-85	85.692.017	20	85	52	50	25	-	M16
PTI-63 SLA 25-90	85.692.518	25	90	65	56	24	22	M18
PTI-63 SLA 32-90	85.693.218	32	90	72	60	24	24	M20
PTI-63 SLA 40-95	85.694.019	40	95	80	70	30	32	M20

## SIDE LOCK HOLDER

weldon style

(DIN 1835/B) MODEL SL

MODEL : SL / HSK (DIN 69893 A+C)  
(THRU. COOLANT)



Model	Ordering Number	ØD	L	ØC	H	H1	H2	G
HSK-63 SL 6 - 65	84.740.613	6	65	25	36	18	-	M6
HSK-63 SL 8 - 65	84.740.813	8	65	28	36	18	-	M8
HSK-63 SL 10 - 65	84.741.013	10	65	35	40	20	-	M10
HSK-63 SL 12 - 80	84.741.216	12	80	42	45	22.50	-	M12
HSK-63 SL 14 - 80	84.741.416	14	80	44	45	22.50	-	M12
HSK-63 SL 16 - 80	84.741.616	16	80	48	48	24	-	M14
HSK-63 SL 18 - 80	84.741.816	18	80	50	48	24	-	M14
HSK-63 SL 20 - 80	84.742.016	20	80	52	50	25	-	M16
HSK-63 SL 25 - 110	84.742.522	25	110	65	56	24	25	M18
HSK-63 SL 32 - 110	84.743.222	32	110	72	60	24	28	M20
HSK-100 SL 6 - 90	84.760.618	6	90	25	36	18	-	M6
HSK-100 SL 8 - 90	84.760.818	8	90	28	36	18	-	M8
HSK-100 SL 10 - 90	84.761.018	10	90	35	40	20	-	M10
HSK-100 SL 12 - 100	84.761.220	12	100	42	45	22.50	-	M12
HSK-100 SL 14 - 100	84.761.420	14	100	44	45	22.50	-	M12
HSK-100 SL 16 - 100	84.761.620	16	100	48	48	24	-	M14
HSK-100 SL 18 - 100	84.761.820	18	100	50	48	24	-	M14
HSK-100 SL 20 - 110	84.762.022	20	110	52	50	25	-	M16
HSK-100 SL 25 - 120	84.762.524	25	120	65	56	24	25	M18
HSK-100 SL 32 - 120	84.763.224	32	120	72	60	24	28	M20
HSK-100 SL 40 - 120	84.763.424	40	120	80	36	30	32	M20



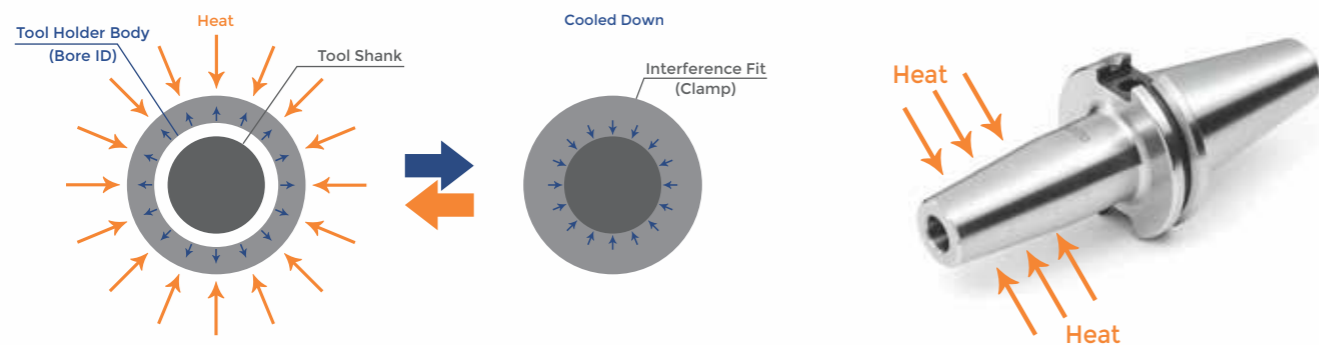
## The Premise of Shrink Fit Technology

Heat shrinking of metal has been around for many decades and is not new to manufacturing processes. In 1992 the beginning of the development of shrink fit technology with regards to metalworking cutting tools was start and then patented several years later. This tool-clamping technology was recently implemented with quick-change tool holders used in everyday machining operations and part processing. It is a cylindrical clamping design using no mechanical clamping systems and relying strictly on physical geometric surface contact to create the accuracy and gripping strength for a very effective high-speed machining system.

The shrink fit process starts by simply applying a heat source (induction heating is most accurate and most controllable) to precisely heat the material of the tool clamping holder to allow the ID bore to open. This bore is slightly smaller (microns) than the shank of the cutting tool. By opening the bore of the tool clamping holder, the plane of the tool shank can slide into the bore replacing the plane of the bore ID surface. This "dimensional interference" between tool shank and tool clamping bore ID creates an extremely tight connection once the tool assembly cools back to room temperature. Gripping force on cutting tool shank after shrink process is completed will exceed 10,000 lbs. of force for excellent tool shank grip and minimize tool slippage.

Once the tool clamping holder shrinks back to its "normal size" – the memory of the steel allows the material to return its original dimensional size (as long as the tool clamping material and area is not over heated causing the metallurgical construction of the steel to change and "lose" its memory). Since the tool shank and the tool clamping bore are in the same dimensional plane, this interference "fit" becomes the physical clamping system, holding the cutting tool shank 360° around the tool shank. This clamping force is equally distributed around the shank and up and down the bore between the tool shank and bore surface.

Since the tool clamping bore surface expands and contracts back to its original dimensional position after the heating and cooling cycle and the heat temperature never exceeds the elastic range of the tool clamping holder material, thousands of "shrink cycles" can be performed without mechanical wear or physical damage being done to the clamping system.



## Shrink Fit Tooling Advantages

- Assembly creates single mono-block tool system that is more accurate in TIR cylindrically than other tool clamping system known.
- Clamping forces are greater than mechanical systems using collets, hydraulic pressure, or even "press-fit" interference technology.
- Lowest TIR runout of any tool clamping system and allows 360° surface contact between tool shank and tool holder bore.
- Excellent tool clamping system for high-speed machining due the excellent symmetrical design of the holder and no mechanical parts to change initial balanced weight.
- Slim and short tool holder profiles are achievable since there is no need for moveable parts to clamp the cutting shank.

Shrink fit technology enables machining applications and processes at greater speeds, higher feed rates while providing improved surface finish. Its high balance design and great TIR accuracy allow extended cutting tool life as well as improved machine spindle life.

### Increasing Tool Life

Two main reasons for using a shrink fit tool holder are to increase tool life and to improve circular rotation of a tool. Typical industry observations have been that there is a 10% loss of tool life for every 0.0001" of T.I.R. (Total Indicator Runout) in a machining application. In some applications, shrink fit tool holders deliver 4 to 7 times the tool life of other tool holding technologies. Shrink fit tool holders also center the rotating tool more accurately which balances the cutting forces on the tool. This translates into lower machining vibrations with better tool centerline positions often measured in microns.

### Shrink Fit Holders Advantages

Improvements in tool life, cutting ability and surface finish mean less wear and tear on the tool holder (Taper Fretting), and machine spindle bearings. This is due to the tool holder's greater clamping power compared to other tool holding methods and superior overall rigidity. Additionally, these holders have a maximum T.I.R. of 0.0001" (25.4µM), and are balanced to 25,000 RPM.

### Tool holder designs

Slim design usually incorporates a 3° clearance angle on the exterior of the shrink holder body. With a thinner body wall, this tool design is excellent for close work piece machining where tool holder and work piece clearance are critical.

Well balanced design and maintains balance even after insertion of most cutting tools due to no mechanical parts to change balance.

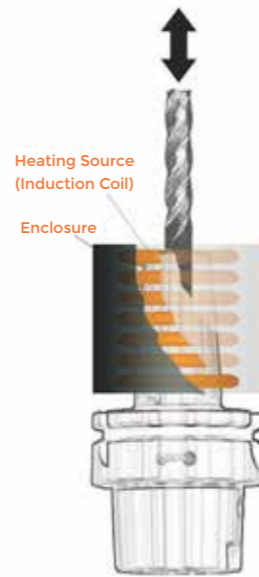
Standard design holders feature a 4.5° tool body angle for most efficient shrink rates and maximum tool shank rigidity for most applications.

Heavy-duty designs offer a thick tool body wall for maximum tool shank gripping strength and most rigid, vibration dampening effectiveness.

## Shrink Fit Heat-Activated Systems

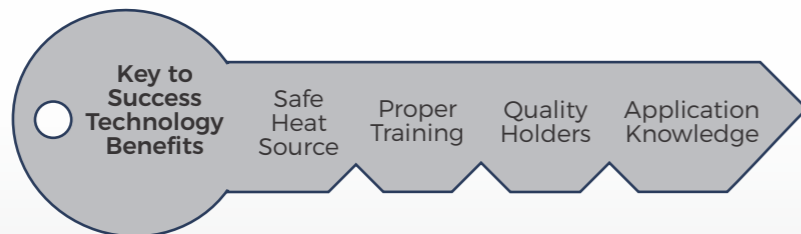
There have been multiple types of heating systems to create the required heat temperature to open the shrink fit bore to allow the cutting tool shank to slide into it. Open flames, hot sand, hot air, and induction coils. When considering a heating and cooling system for your shrink fit tools, operator safety, accurate heat control in temperature and time, and simplicity and efficiency are key concerns. Induction coils and solution cooling are two for the most efficient and most accurate method of heating and cooling shrink fit tool holders.

Induction coil systems offer shorter cycle times, less cooling downtime, and localize heating. Integrated with a cooling system using air or solution make it simple and safe tool clamping system.



### What this means to our customers

Utilizing shrink fit tool holders in your machining processes, you have a higher confidence in our "lights out" machining processes which translates into predictable tool life, production levels and shorter delivery schedules. You can also produce parts with greater positional machined accuracy.



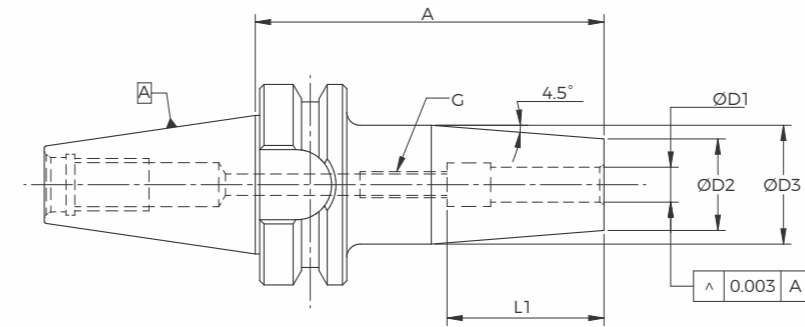
## BT SHRINK FIT HOLDERS

standard DIN length

### MODEL SFH

#### Features:

- Balanced to G2.5 @ 25,000 RPM
- T.I.R. < 0.003μ
- Taper shank ground to AT3 accuracy (or better)



	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
BT30	94100316	BT30-SF 3-80	3	80	15	20	20	-	AD Thru
	91400413	BT30-SF 4-80	4	80	15	20	20	-	AD Thru
	94100516	BT30-SF 5-80	5	80	15	20	20	-	AD Thru
	94100616	BT30-SF 6-80	6	80	21	27	36	M5	AD Thru
	94100816	BT30-SF 8-80	8	80	21	27	36	M6x1	AD Thru
	94101016	BT30-SF 10-80	10	80	24	32	42	M8x1	AD Thru
	94101216	BT30-SF 12-80	12	80	24	32	47	M10x1	AD Thru
	94101616	BT30-SF 16-80	16	80	27	34	50	M12x1	AD Thru
	94102016	BT30-SF 20-80	20	80	33	42	52	M16x1	AD Thru

	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
BT40	94120318	BT40-SF 3-90	3	90	15	20	20	-	AD Thru
	94120418	BT40-SF 4-90	4	90	15	20	20	-	AD Thru
	94120518	BT40-SF 5-90	5	90	15	20	20	-	AD Thru
	84120618	BT40-SF 6-90	6	90	21	27	36	M5	AD Thru
	94120818	BT40-SF 8-90	8	90	21	27	36	M6x1	AD Thru
	94121018	BT40-SF 10-90	10	90	24	32	42	M8x1	AD Thru
	94121218	BT40-SF 12-90	12	90	24	32	47	M10x1	AD Thru
	94121618	BT40-SF 16-90	16	90	27	34	50	M12x1	AD Thru
	94122018	BT40-SF 20-90	20	90	33	42	52	M16x1	AD Thru
	94122520	BT40-SF 25-100	25	100	44	53	58	M16x1	AD Thru
	94123220	BT40-SF 32-100	32	100	44	53	58	M16x1	AD Thru

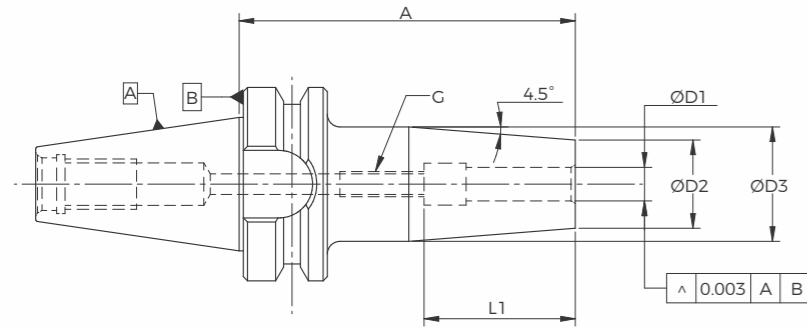
## BTP FACE CONTACT SHRINK FIT HOLDERS

standard DIN length

**MODEL SFH**

### Features:

- Balanced to G2.5 @ 25,000 RPM
- T.I.R. < 0.003μ
- Taper shank ground to AT3 accuracy (or better)



	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
BTP30	941060316	BTP30-SF 3-80	3	80	15	20	20	-	AD Thru
	941060416	BTP30-SF 4-80	4	80	15	20	20	-	AD Thru
	941061516	BTP30-SF 5-80	5	80	15	20	20	-	AD Thru
	941060616	BTP30-SF 6-80	6	80	21	27	36	M5	AD Thru
	941061816	BTP30-SF 8-80	8	80	21	27	36	M6x1	AD Thru
	941061016	BTP30-SF 10-80	10	80	24	32	42	M8x1	AD Thru
	941061216	BTP30-SF 12-80	12	80	24	32	47	M10x1	AD Thru
	941061616	BTP30-SF 16-80	16	80	27	34	50	M12x1	AD Thru
	941062016	BTP30-SF 20-80	20	80	33	42	52	M16x1	AD Thru

	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
BTP40	941080318	BTP40-SF 3-90	3	80	15	20	20	-	AD Thru
	941080418	BTP40-SF 4-90	4	80	15	20	20	-	AD Thru
	941080518	BTP40-SF 5-90	5	80	15	20	20	-	AD Thru
	841080618	BTP40-SF 6-90	6	80	21	27	36	M5	AD Thru
	941080818	BTP40-SF 8-90	8	80	21	27	36	M6x1	AD Thru
	941081018	BTP40-SF 10-90	10	80	24	32	42	M8x1	AD Thru
	941081218	BTP40-SF 12-90	12	80	24	32	47	M10x1	AD Thru
	941081618	BTP40-SF 16-90	16	80	27	34	50	M12x1	AD Thru
	941082018	BTP40-SF 20-90	20	80	33	42	52	M16x1	AD Thru
	941082520	BTP40-SF 25-100	25	100	44	53	58	M16x1	AD Thru
	941083220	BTP40-SF 32-100	32	100	44	53	58	M16x1	AD Thru

## HSK / A SHRINK FIT HOLDERS

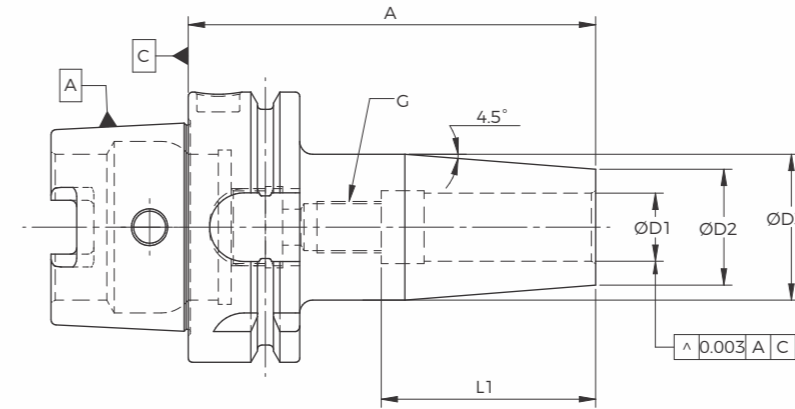
standard DIN length

**MODEL SFH**



### Features:

- Balanced to G2.5 @ 25,000 RPM
- T.I.R. < 0.003μ



	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
HSK63A	94740316	HSK-63A-SF 3-80	3	80	15	20	20	-	AD Thru
	91740416	HSK-63A-SF 4-80	4	80	15	20	20	-	AD Thru
	94740516	HSK-63A-SF 5-80	5	80	15	20	20	-	AD Thru
	94740616	HSK-63A-SF 6-80	6	80	21	27	36	M5	AD Thru
	94740816	HSK-63A-SF 8-80	8	80	21	27	36	M6x1	AD Thru
	94741017	HSK-63A-SF 10-85	10	88	24	32	42	M8x1	AD Thru
	94741218	HSK-63A-SF 12-90	12	90	24	32	47	M10x1	AD Thru
	94741418	HSK-63A-SF 14-90	14	90	27	34	47	M10x1	AD Thru
	94741618	HSK-63A-SF 16-90	16	90	27	34	50	M12x1	AD Thru
	94741819	HSK-63A-SF 18-95	18	95	33	42	50	M12x1	AD Thru
	94742020	HSK-63A-SF 20-100	20	100	33	42	52	M16x1	AD Thru

	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
HSK100A	94760617	HSK100A-SF 6-85	6	85	21	27	36	M5	AD Thru
	94760817	HSK100A-SF 8-85	8	85	21	27	36	M6	AD Thru
	94761018	HSK100A-SF 10-90	10	90	24	32	42	M8x1	AD Thru
	94761219	HSK100A-SF 12-95	12	95	24	32	47	M10x1	AD Thru
	94761419	HSK100A-SF 14-95	14	95	27	34	47	M10x1	AD Thru
	94761620	HSK100A-SF 16-100	16	100	27	34	50	M12x1	AD Thru
	94761820	HSK100A-SF 18-100	18	100	33	42	50	M12x1	AD Thru
	94762021	HSK100A-SF 20-105	20	105	33	42	52	M16x1	AD Thru
	94762523	HSK100A-SF 25-115	25	115	44	53	58	M16x1	AD Thru
	94763224	HSK100A-SF 32-120	32	120	44	53	62	M16x1	AD Thru



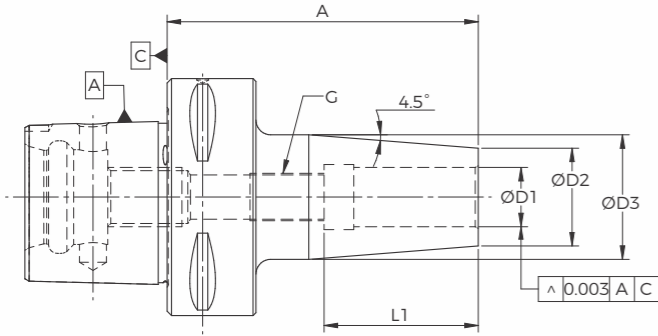
# PTI SHRINK FIT HOLDERS

standard DIN length

## MODEL SFH

**Features:**

- Balanced to G2.5 @ 25,000 RPM
- T.I.R. < 0.003μ



	Ordering Number	Description	D1	A	D2	D3	L1	G	Coolant Style
PTI50	94680315	PTI50-SF 3-75	3	75	15	20	20	-	AD Thru
	94680415	PTI50-SF 4-75	4	75	15	20	20	-	AD Thru
	94680515	PTI50-SF 5-75	5	75	15	20	25	-	AD Thru
	94680615	PTI50-SF 6-75	6	75	21	27	36	M5	AD Thru
	94680815	PTI50-SF 8-75	8	75	21	27	36	M6x1	AD Thru
	94681015	PTI50-SF 10-75	10	75	24	32	42	M8x1	AD Thru
	94681215	PTI50-SF 12-75	12	75	24	32	47	M10x1	AD Thru
	PTI63	94690316	PTI63-SF 3-80	3	80	15	20	20	-
94690416		PTI63-SF 4-80	4	80	15	20	20	-	AD Thru
94690516		PTI63-SF 5-80	5	80	15	20	25	-	AD Thru
94690616		PTI63-SF 6-80	6	80	21	27	36	M5	AD Thru
94690816		PTI63-SF 8-80	8	80	21	27	36	M6x1	AD Thru
94691017		PTI63-SF 10-85	10	80	24	32	42	M8x1	AD Thru
94691217		PTI63-SF 12-85	12	80	24	32	47	M10x1	AD Thru
94691618		PTI63-SF 16-90	16	85	27	42	50	M12x1	AD Thru
PTI80	94700618	PTI80-SF 6-90	6	80	21	27	36	M5	AD Thru
	94700818	PTI80-SF 8-90	8	80	21	27	36	M6x1	AD Thru
	94701018	PTI80-SF 10-90	10	80	24	32	42	M8x1	AD Thru
	94701219	PTI80-SF 12-95	12	80	24	32	47	M10x1	AD Thru
	94701619	PTI80-SF 16-95	16	85	27	42	50	M12x1	AD Thru
	94702019	PTI80-SF 20-95	20	85	33	42	50	M16x1	AD Thru

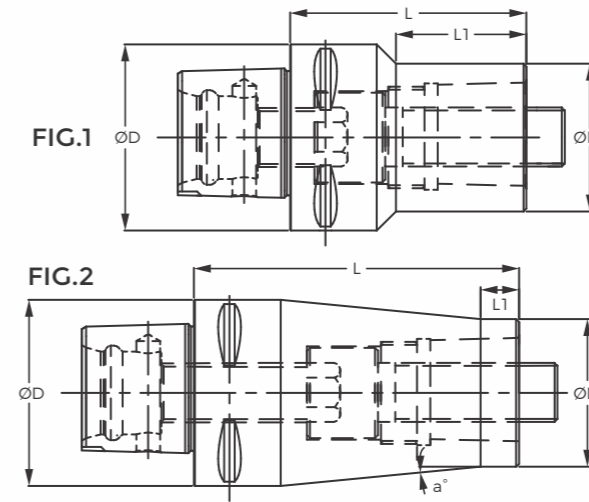
# REDUCTION ADAPTOR / EXTENSION ADAPTOR

ISO-26623-1 / ISO-26623-2

## MODEL R.A / E.A.

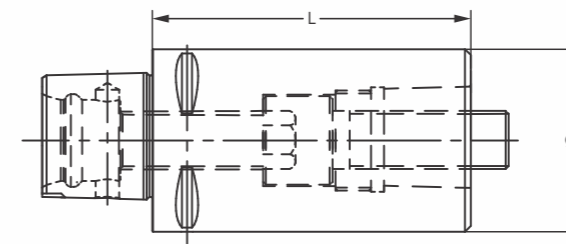


**MODEL : REDUCTION ADAPTOR**



Model	Ordering Number	Fig.	Adaptor	ØD	ØD1	L	L1	A°
PTI-40/PTI-32-70	214,314	2	PTI-32	40	32	70	12	6°
PTI-50/PTI-32-60	215,312	1	PTI-32	50	32	60	35.00	-
PTI-50/PTI-40-85	215,417	2	PTI-40	50	40	85	12	5.4°
PTI-63/PTI-32-70	216,314	1	PTI-32	63	32	70	39	-
PTI-63/PTI-40-80	216,416	1	PTI-40	63	40	80	51.50	-
PTI-63/PTI-50-80	216,516	1	PTI-50	63	50	80	51.50	-
PTI-63/PTI-50-110	216,522	2	PTI-50	63	50	110	12	4.9°
PTI-80/PTI-32-60	218,312	1	PTI-32	80	32	60	29.50	-
PTI-80/PTI-40-70	218,414	1	PTI-40	80	40	70	36.50	-
PTI-80/PTI-50-80	218,516	1	PTI-50	80	50	80	49.50	-
PTI-80/PTI-63-80	218,616	1	PTI-63	80	63	80	53.00	-
PTI-80/PTI-63-120	218,624	2	PTI-63	80	63	120	12	6.2°

**MODEL : EXTENSION ADAPTOR**



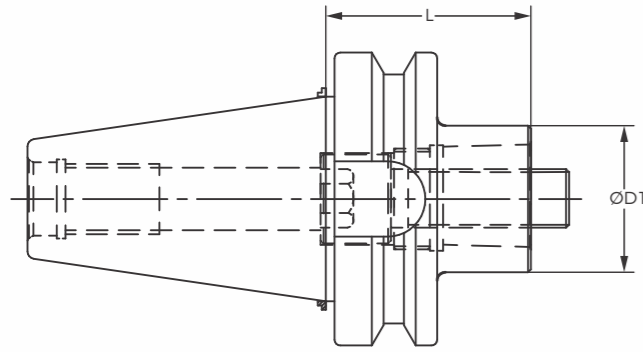
Model	Ordering Number	Adaptor	ØD	L
PTI-32/PTI-32-60	203,312	PTI-32	32	60
PTI-32/PTI-32-80	203,316	PTI-32	32	80
PTI-40/PTI-40-60	204,412	PTI-40	40	60
PTI-40/PTI-40-80	204,416	PTI-40	40	80
PTI-50/PTI-50-80	205,516	PTI-50	50	80
PTI-50/PTI-50-100	205,520	PTI-50	50	100
PTI-63/PTI-63-100	206,620	PTI-63	63	100
PTI-63/PTI-63-140	206,628	PTI-63	63	140
PTI-80/PTI-80-100	208,820	PTI-80	80	100
PTI-80/PTI-80-125	208,825	PTI-80	80	125
PTI-80X/PTI-80X-100	209,920	PTI-80X	100	100



## EXTENSION ADAPTOR

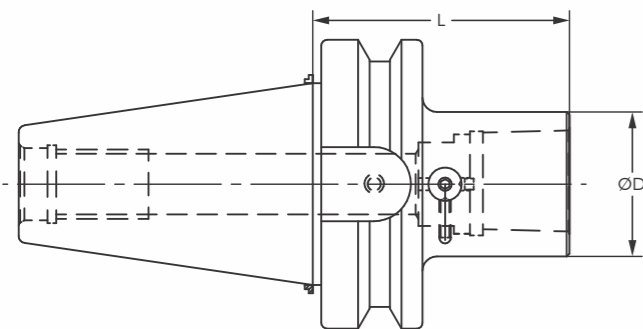
### MODEL MAS / BT EA PTI

MODEL : EXTENSION ADAPTOR (DRAWBAR TYPE CLAMPING)  
MAS/BT ES PTI (ISO 26623-2)



Model	Ordering Number	Adaptor	ØD1	L
BT-50/PTI-32-70	89,146,614	PTI-32	32	70
BT-40/PTI-40-30	89,126,706	PTI-40	40	30
BT-40/PTI-40-60	89,126,712	PTI-40	40	60
BT-50/PTI-40-40	89,146,708	PTI-40	40	40
BT-50/PTI-40-70	89,146,714	PTI-40	40	70
BT-40/PTI-50-30	89,126,806	PTI-50	50	30
BT-40/PTI-50-70	89,126,814	PTI-50	50	70
BT-50/PTI-50-40	89,146,808	PTI-50	50	40
BT-50/PTI-50-80	89,146,816	PTI-50	50	80
BT-40/PTI-63-75	89,126,915	PTI-63	63	75
BT-50/PTI-63-40	89,146,908	PTI-63	63	40
BT-50/PTI-63-90	89,146,918	PTI-63	63	90
BT-50/PTI-80-70	89,147,014	PTI-80	80	70
BT-50/PTI-80-120	89,147,024	PTI-80	80	120

MODEL:- EXTENSION ADAPTOR (FRONT CLAMPING)  
MAS/BT ES PTI (ISO 26623-2)



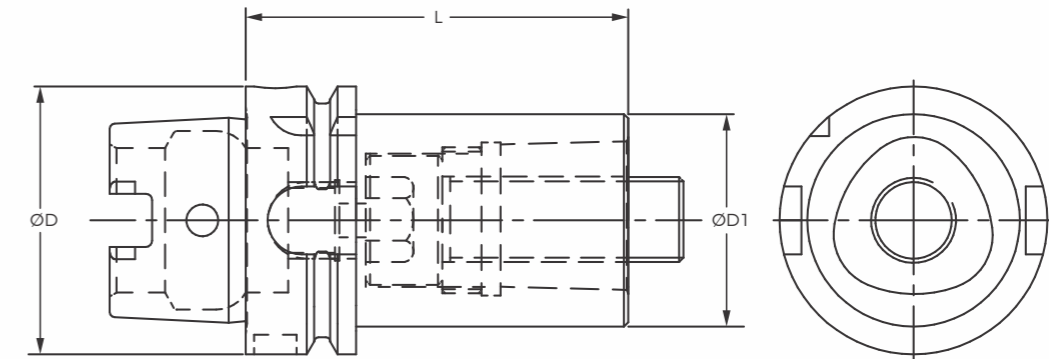
Model	Ordering Number	Adaptor	ØD1	L
BT-40/PTI-50-90	89,126,818 F	PTI-50	50	90
BT-50/PTI-50-100	89,126,920 F	PTI-50	50	100
BT-50/PTI-63-110	89,146,922 F	PTI-63	63	110
BT-50/PTI-80-125	89,147,025 F	PTI-80	80	125

Shanks like BT Face Contact Taper are Also Available Upon request

## EXTENSION ADAPTOR

### MODEL HSK. EA. PTI

MODEL : EXTENSION ADAPTOR  
HSK ES PTI (ISO-26623-2)

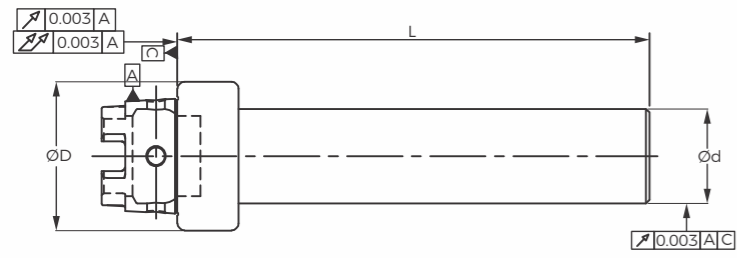


Model	Ordering Number	Adaptor	ØD	ØD1	L
HSK-63/PTI-32-75	89,746,615	PTI-32	63	32	75
HSK-100/PTI-32-80	89,766,616	PTI-32	100	32	80
HSK-63/PTI-40-80	89,746,716	PTI-40	63	40	80
HSK-100/PTI-40-90	89,766,718	PTI-40	100	40	90
HSK-63/PTI-50-90	89,746,818	PTI-50	63	50	90
HSK-100/PTI-50-100	89,766,820	PTI-50	100	50	100
HSK-100/PTI-63-110	89,766,922	PTI-63	100	63	110
HSK-100/PTI-80-120	89,767,024	PTI-80	100	80	120

# TEST MANDREL

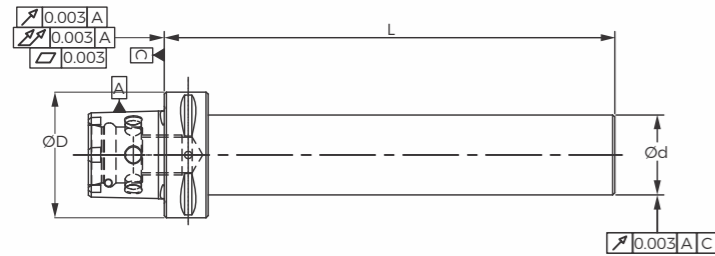
## MODEL TEST MANDREL

MODEL : HSK TEST MANDREL (DIN 69893 A)



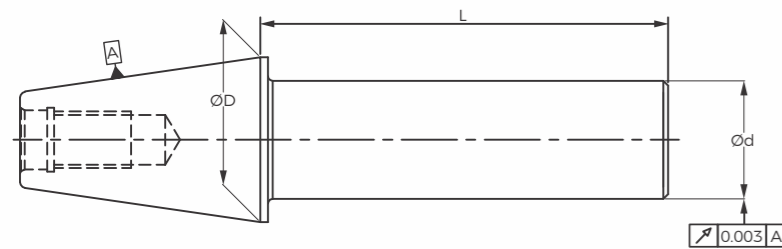
Model	Ordering Number	ØD	Ød	L
HSK 32 A TEST MANDREL	02.713.240	Ø32	Ø32	200
HSK 40 A TEST MANDREL	02.723.240	Ø40	Ø32	200
HSK 50 A TEST MANDREL	02.734.050	Ø50	Ø40	250
HSK 63 A TEST MANDREL	02.744.070	Ø63	Ø40	350
HSK 100 A TEST MANDREL	02.764.076	Ø100	Ø40	380

MODEL : PTI TEST MANDREL (ISO 26623-1)



Model	Ordering Number	ØD	Ød	L
PTI 32 TEST MANDREL	02.662.536	Ø32	Ø25	180
PTI 40 TEST MANDREL	02.672.536	Ø40	Ø25	180
PTI 50 TEST MANDREL	02.683.251	Ø50	Ø32	255
PTI 63 TEST MANDREL	02.694.065	Ø63	Ø40	325
PTI 80 TEST MANDREL	02.704.066	Ø80	Ø40	330

MODEL : BT TEST MANDREL (MAS 403)



Model	Ordering Number	ØD	Ød	L
BT 30 TEST MANDREL	02.102.540	Ø31.75	Ø25	200
BT 35 TEST MANDREL	02.112.540	Ø38.10	Ø25	200
BT 40 TEST MANDREL	02.124.060	Ø44.45	Ø40	300
BT 45 TEST MANDREL	02.134.060	Ø57.15	Ø40	300
BT 50 TEST MANDREL	02.144.070	Ø69.85	Ø40	350

# IS TAP SHANK DIMENSIONS



Tap Shank No.	Dia x Square (mm)	IS 6175 Part-I	IS 6175 Part-II	IS 6175 Part-III	IS 7821	IS 1988	IS 6172	IS 7796
014	2,24 X 1,80			M 3	M 3			
020	2,50 X 2,00	M 1		M 3,5	M 3,5	M 1		
		M 1,1				M 1,1		
		M 1,2				M 1,2		
		M 1,4				M 1,4		
		M 1,6				M 1,6		
		M 1,8				M 1,8		
045	2,80 x 2,24	M 2				M 2		
		M 2,2				M 2,2		
		M 2,5				M 2,5		
067	3,15 x 2,50		M 3	M 4	M 4	M 3		
096	3,55 x 2,80		M 3,5	M 4,5	M 4,5	M 3,5		
126	4,00 x 3,15		M 4	M 5	M 5	M 4		
159	4,50 x 3,55		M 4,5	M 6	M 6	M 4,5		
195	5,00 x 4,00		M 5			M 5		
215	5,60 x 4,50			M 7	M 7			Rc 1/16"
257	6,30 x 5,00		M 6	M 8	M 8	M 6	1/8"	G 1/16" Rp 1/16"
281	7,10 x 5,60		M 7		M 9	M 7		
316	8,00 x 6,30		M 8	M 10	M 10	M 8	G 1/8"	Rp 1/8" Rc 1/8"
356	9,00 x 7,10				M 11	M 11		
389	10,00 x 8,00		M 10			M 10	1/4"	G 1/4" Rp 1/4" Rc 1/4"
415	11,20 x 9,00			M 14	M 14	M 14		
439	12,50 x 10,00			M 16	M 16	M 16	3/8"	G 3/8" Rp 3/8" Rc 3/8"
470	14,00 x 11,20			M 18	M 18	M 18		
				M 20	M 20	M 20		
495	16,00 x 12,50			M 22	M 22	M 22	1/2"	G 1/2" Rp 1/2" Rc 1/2"
524	18,00 x 14,00			M 24	M 24	M 24		G 5/8"
				M 25				
				M 27		M 27	3/4"	G 3/4" Rp 3/4" Rc 3/4"
556	20,00 x 16,00			M 30		M 30		
582	22,40 x 18,00			M 33		M 33		G 7/8"
615	25,00 x 20,00			M 36		M 36	1"	G 1" Rp 1" Rc 1"
654	28,00 x 22,40			M 39		M 39		
				M 42		M 42		
				M 45		M 45	1-1/4"	G 1-1/4" Rp 1-1/4" Rc 1-1/4"
692	31,50 x 25,00			M 48		M 48		
725	35,50 x 28,00			M 52		M 52	1-1/2"	G 1-1/2" Rp 1-1/2" Rc 1-1/2"
				M 56		M 56	2"	G 1-3/4"
				M 60		M 60		Rp 2" Rc 2"
762	40,00 x 31,50			M 64		M 64		G 2-1/4"
797	45,00 x 35,50			M 68		M 68	2-1/2"	G 2-1/2" Rp 2-1/2" Rc 2-1/2"
818	50,00 x 40,00						3"	G 3" Rp 3" Rc 3"
866	63,00 x 50,00						3-1/2"	G 3-1/2" Rc 3-1/2"
884	71,00 x 56,00						4"	G 4" Rp 4" Rc 4"

The given Torques include a wear factor of 100% for material having a tensile strength ≤B 1000 N/mm = 145,000 Lbs/sq. in. with respect to dia. of pre-drilled holes, cutting fluid, centering of tap etc. When tapping non-ferrous material such as aluminium alloys and brass, the torques can be considerably less than shown in the tables. This rulling is also valid when tapping fine-pitch threads. On the other hand, when tapping tougher materials, the torques may be increased by the 50%value and in cold forming threads, the torques may be increased by 40 to 100% value stated in the table.

