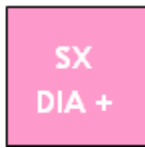
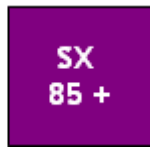


SANPAR S.À.R.L.

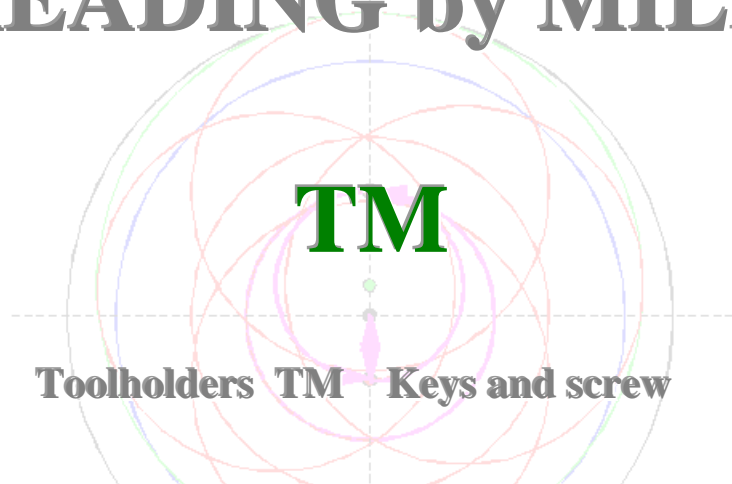
EXPORT SERVICES - SWISS INDUSTRIES OF ADVANCED TECHNOLOGY



63 HRC

48 HRC

INDEXABLE INSERTS for THREADING by MILLING



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Our manufacturing :
52% Standard - Tools catalogue - 48% Special tools - according to drawings,
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Silver

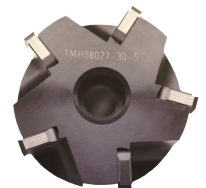


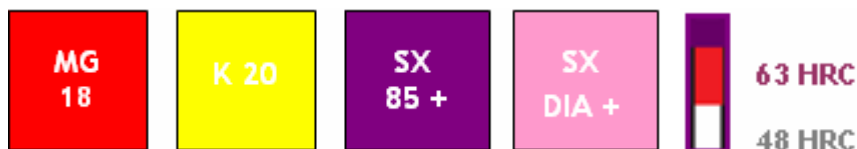
THREADMILL INSERTS - TM



Example: **TM21-N-1.5 ISO**

TM	Insert type
21	(L) Insert length
N	Internal (N) External (E) Internal-external (NE)
1.50	Pitch (mm) (Inch)
ISO	Norm
L	Insert length
NF	Thread quantity
Centrage	Distance between the side of the insert and the first thread form
H prof.	Thread height
S(XP)	Single side use only (release on the other side)





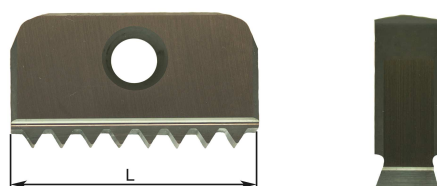
Métric ISO 60° outside

Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
1,00	TM14-E-1.00ISO	14	14	0	TMH....-...-14	0,633	26.79
	TM21-E-1.00ISO	21	21	0	TMH....-...-21		41.43
1,50	TM14-E-1.50ISO	14	9	0,25	TMH....-...-14	0,949	26.79
	TM21-E-1.50ISO	21	14	0	TMH....-...-21		41.43
	TM30-E-1.50ISO	30	20	0	TMH....-...-30		78.57
2,00	TM14-E-2.00ISO	14	7	0	TMH....-...-14	1,266	26.79
	TM21-E-2.00ISO	21	10	0,5	TMH....-...-21		41.43
	TM30-E-2.00ISO	30	15	0	TMH....-...-30		78.57
2,50	TM21-E-2.50ISO	21	8	0,5	TMH....-...-21	1,582	41.43
	TM30-E-2.50ISO	30	12	0	TMH....-...-30		78.57
3,00	TM21-E-3.00ISO	21	7	0	TMH....-...-21	1,898	41.43
	TM30-E-3.00ISO	30	10	0	TMH....-...-30		78.57
3,50	TM21-E-3.50ISO-S	21	6	0	TMH....-...-21	2,215	41.43
	TM30-E-3.50ISO	30	8	1	TMH....-...-30		78.57
4,00	TM30-E-4.00ISO-S	30	7	1	TMH....-...-30	2,531	78.57
	TM40-E-4.00ISO	40	10	0	TMH....-...-40		96.43
5,00	TM40-E-5.00ISO	40	8	0	TMH....-...-40	3,164	96.43
6,00	TM40-E-6.00ISO	40	6	2	TMH....-...-40	3,797	96.43

a passion - a Know-how
a program - specialties

SWISS TECHNOLOGY BY EXCELLENCE !

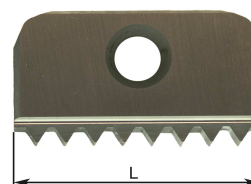
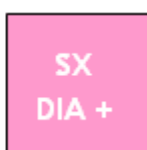
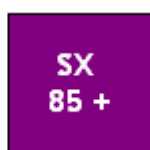


Métric ISO 60° inside

Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
1,00	TM14-N-1.00ISO	14	14	0	TMH....-...-14	0,587	26.79
	TM21-N-1.00ISO	21	21	0	TMH....-...-21		41.43
1,50	TM14-N-1.50ISO	14	9	0,25	TMH....-...-14	0,881	26.79
	TM21-N-1.50ISO	21	14	0	TMH....-...-21		41.43
	TM30-N-1.50ISO	30	20	0	TMH....-...-30		78.57
2,00	TM14-N-2.00ISO-S	14	7	0	TMH....-...-14	1,174	26.79
	TM21-N-2.00ISO	21	10	0,5	TMH....-...-21		41.43
	TM30-N-2.00ISO	30	15	0	TMH....-...-30		78.57
2,50	TM21-N-2.50ISO	21	8	0,5	TMH....-...-21	1,468	41.43
	TM30-N-2.50ISO	30	12	0	TMH....-...-30		78.57
3,00	TM21-N-3.00ISO	21	7	0	TMH....-...-21	1,762	41.43
	TM30-N-3.00ISO	30	10	0	TMH....-...-30		78.57
3,50	TM21-N-3.50ISO-S	21	6	0	TMH....-...-21	2,055	41.43
	TM30-N-3.50ISO	30	8	1	TMH....-...-30		78.57
4,00	TM30-N-4.00ISO-S	30	7	1	TMH....-...-30	2,349	78.57
	TM40-N-4.00ISO	40	10	0	TMH....-...-40		96.43
4,50	TM30-N-4.50ISO-S	30	6	1,5	TMH....-...-30	2,642	78.57
	TM40-N-4.50ISO	40	8	2	TMH....-...-40		96.43
5,00	TM30-N-5.00ISO-S	30	6	0	TMH....-...-30	2,936	78.57
	TM40-N-5.00ISO	40	8	0	TMH....-...-40		96.43
5,50	TM30-N-5.50ISO-S	30	5	1,25	TMH....-...-30	3,229	78.57
	TM40-N-5.50ISO	40	7	0,75	TMH....-...-40		96.43
6,00	TM40-N-6.00ISO	40	6	2	TMH....-...-40	3,523	96.43

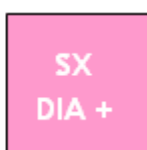
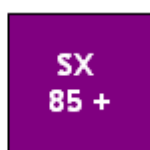
SWISS TECHNOLOGY BY EXCELLENCE !



ISO thread - inches 60° UN outside

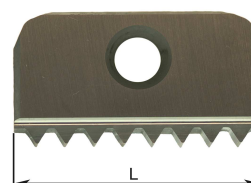
Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
48	TM14-E-48" UN	14	26	0,121	TMH....-...-14	0,344	26.79
40	TM14-E-40" UN	14	22	0,015	TMH....-...-14	0,413	26.79
32	TM14-E-32" UN	14	17	0,253	TMH....-...-14	0,516	26.79
28	TM14-E-28" UN	14	15	0,196	TMH....-...-14	0,589	26.79
27	TM14-E-27" UN	14	14	0,415	TMH....-...-14	0,611	26.79
24	TM14-E-24" UN	14	13	0,121	TMH....-...-14	0,688	26.79
20	TM14-E-20" UN	14	11	0,015	TMH....-...-14	0,825	26.79
	TM21-E-20" UN	21	16	0,340	TMH....-...-21		41.43
18	TM14-E-18" UN	14	10	-0,056	TMH....-...-14	0,917	26.79
	TM21-E-18" UN	21	14	0,622	TMH....-...-21		41.43
	TM30-E-18" UN	30	21	0,183	TMH....-...-30		78.57
	TM40-E-18" UN	40	28	0,244	TMH....-...-40		96.43
16	TM14-E-16" UN	14	8	0,650	TMH....-...-14	1,032	26.79
	TM21-E-16" UN	21	13	0,181	TMH....-...-21		41.43
	TM30-E-16" UN	30	18	0,713	TMH....-...-30		78.57
	TM40-E-16" UN	40	25	0,156	TMH....-...-40		96.43
14	TM14-E-14" UN	14	8	-0,257	TMH....-...-14	1,179	26.79
	TM21-E-14" UN	21	11	0,521	TMH....-...-21		41.43
	TM30-E-14" UN	30	16	0,486	TMH....-...-30		78.57
	TM40-E-14" UN	40	22	0,043	TMH....-...-40		96.43
12	TM14-E-12" UN	14	6	0,650	TMH....-...-14	1,375	26.79
	TM21-E-12" UN	21	9	0,975	TMH....-...-21		41.43
	TM30-E-12" UN	30	14	0,183	TMH....-...-30		78.57
	TM40-E-12" UN	40	18	0,950	TMH....-...-40		96.43
10	TM21-E-10" UN	21	8	0,340	TMH....-...-21	1,650	41.43
	TM30-E-10" UN	30	11	1,030	TMH....-...-30		78.57
	TM40-E-10" UN	40	14	2,220	TMH....-...-40		96.43
9	TM21-E- 9" UN	21	7	0,622	TMH....-...-21	1,834	41.43
	TM30-E- 9" UN	30	10	0,889	TMH....-...-30		78.57
	TM40-E- 9" UN	40	14	0,244	TMH....-...-40		96.43
8	TM21-E- 8" UN-S	21	6	0,975	TMH....-...-21	2,063	41.43
	TM30-E- 8" UN	30	9	0,713	TMH....-...-30		78.57
	TM40-E- 8" UN	40	12	0,950	TMH....-...-40		96.43
7	TM30-E- 7" UN	30	8	0,486	TMH....-...-30	2,358	78.57
	TM40-E- 7" UN	40	11	0,043	TMH....-...-40		96.43
6	TM30-E- 6" UN-S	30	7	0,183	TMH....-...-30	2,751	78.57
	TM40-E- 6" UN	40	9	0,950	TMH....-...-40		96.43
5	TM30-E- 5" UN-S	30	6	-0,240	TMH....-...-30	3,301	78.57
	TM40-E- 5" UN	40	8	-0,320	TMH....-...-40		96.43
4,5	TM40-E- 4.5" UN	40	7	0,244	TMH....-...-40	3,668	96.43
4	TM40-E- 4" UN-S	40	6	0,950	TMH....-...-40	4,126	96.43
3,5	TM40-E- 3.5" UN-S	40	5	1,857	TMH....-...-40	4,716	96.43



63 HRC

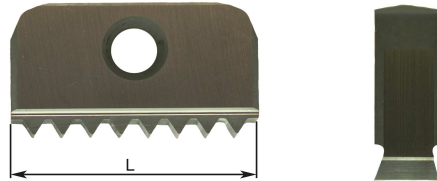
48 HRC



ISO thread - inches 60° UN inside

Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
48	TM14-N-48" UN	14	26	0,121	TMH....-...-14	0,311	26.79
40	TM14-N-40" UN	14	22	0,015	TMH....-...-14	0,373	26.79
32	TM14-N-32" UN	14	17	0,253	TMH....-...-14	0,466	26.79
28	TM14-N-28" UN	14	15	0,196	TMH....-...-14	0,533	26.79
27	TM14-N-27" UN	14	14	0,415	TMH....-...-14	0,552	26.79
24	TM14-N-24" UN	14	13	0,121	TMH....-...-14	0,621	26.79
20	TM14-N-20" UN	14	11	0,015	TMH....-...-14	0,746	26.79
	TM21-N-20" UN	21	16	0,340	TMH....-...-21		41.43
18	TM14-N-18" UN	14	10	-0,056	TMH....-...-14	0,829	26.79
	TM21-N-18" UN	21	14	0,622	TMH....-...-21		41.43
	TM30-N-18" UN	30	21	0,183	TMH....-...-30		78.57
16	TM40-N-18" UN	40	28	0,244	TMH....-...-40	0,932	96.43
	TM14-N-16" UN	14	8	0,650	TMH....-...-14		26.79
	TM21-N-16" UN	21	13	0,181	TMH....-...-21		41.43
14	TM30-N-16" UN	30	18	0,713	TMH....-...-30	1,065	78.57
	TM40-N-16" UN	40	25	0,156	TMH....-...-40		96.43
	TM14-N-14" UN	14	8	-0,257	TMH....-...-14		26.79
12	TM21-N-14" UN	21	11	0,521	TMH....-...-21	1,243	41.43
	TM30-N-14" UN	30	16	0,486	TMH....-...-30		78.57
	TM40-N-14" UN	40	22	0,043	TMH....-...-40		96.43
10	TM14-N-12" UN	14	6	0,650	TMH....-...-14	1,491	26.79
	TM21-N-12" UN	21	9	0,975	TMH....-...-21		41.43
	TM30-N-12" UN	30	14	0,183	TMH....-...-30		78.57
9	TM40-N-12" UN	40	18	0,950	TMH....-...-40	1,657	96.43
	TM21-N-10" UN	21	8	0,340	TMH....-...-21		41.43
	TM30-N-10" UN	30	11	1,030	TMH....-...-30		78.57
8	TM40-N-10" UN	40	14	2,220	TMH....-...-40	1,864	96.43
	TM21-N- 9" UN	21	7	0,622	TMH....-...-21		41.43
	TM30-N- 9" UN	30	10	0,889	TMH....-...-30		78.57
7	TM40-N- 9" UN	40	14	0,244	TMH....-...-40	2,131	96.43
	TM21-N- 8" UN-S	21	6	0,975	TMH....-...-21		41.43
	TM30-N- 8" UN	30	9	0,713	TMH....-...-30		78.57
6	TM40-N- 8" UN	40	12	0,950	TMH....-...-40	2,486	96.43
	TM30-N- 7" UN	30	8	0,486	TMH....-...-30		78.57
	TM40-N- 7" UN	40	11	0,043	TMH....-...-40		96.43
5	TM30-N- 6" UN-S	30	7	0,183	TMH....-...-30	2,983	78.57
	TM40-N- 6" UN	40	9	0,950	TMH....-...-40		96.43
	TM30-N- 5" UN-S	30	6	-0,240	TMH....-...-30		78.57
4,5	TM40-N- 5" UN	40	8	-0,320	TMH....-...-40	96.43	
4	TM40-N- 4.5" UN	40	7	0,244	TMH....-...-40	3,314	96.43
3,5	TM40-N- 4" UN-S	40	6	0,950	TMH....-...-40	3,729	96.43
3,5	TM40-N- 3.5" UN-S	40	5	1,857	TMH....-...-40	4,261	96.43



BSP (British Straight Pipe) 55° inside – outside

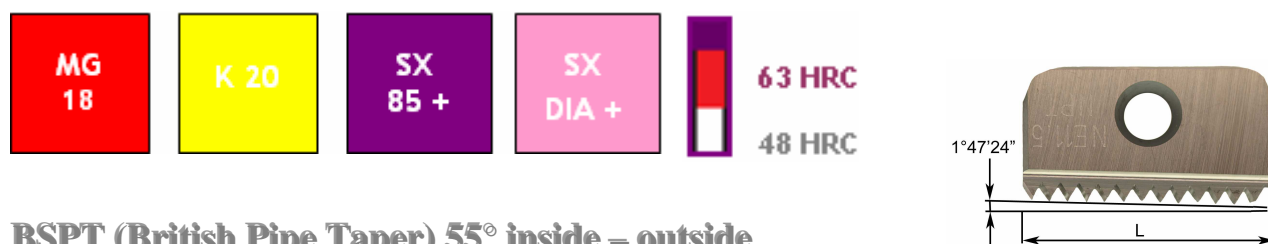
Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
19	TM14-NE-19"BSP	14	10	0,316	TMH....-...-14	0,856	26.79
14	TM14-NE-14"BSP	14	7	0,650	TMH....-...-14	0,581	26.79
	TM21-NE-14"BSP	21	11	0,521	TMH....-...-21		41.43
	TM30-NE-14"BSP	30	16	0,486	TMH....-...-30		78.57
11	TM21-NE-11"BSP	21	9	0,109	TMH....-...-21	1,479	41.43
	TM30-NE-11"BSP	30	13	-0,009	TMH....-...-30		78.57
	TM40-NE-11"BSP	40	17	0,373	TMH....-...-40		96.43

Our manufacturing :
 52% Standard - Tools catalogue - 48% Special tools - according to drawings,
 Specifically for :
 Medical - Dental - Aerospace - Military - Petrol - Automotive

a passion - a Know-how
 a program - specialties

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BSPT (British Pipe Taper) 55° inside = outside

Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

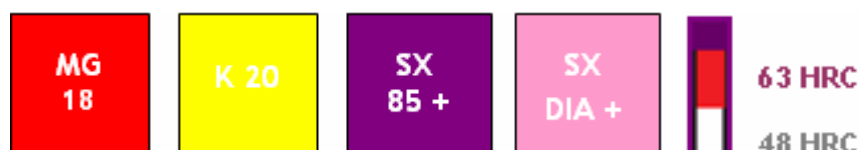
Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
19	TM14-NE-19"BSPT-S	14	10	0,316	TMH....-...-14	0,856	26.79
14	TM14-NE-14"BSPT-S	14	7	0,650	TMH....-...-14	0,581	26.79
	TM21-NE-14"BSPT-S	21	11	0,521	TMH....-...-21		41.43
	TM30-NE-14"BSPT-S	30	16	0,486	TMH....-...-30		78.57
11	TM21-NE-11"BSPT-S	21	9	0,109	TMH....-...-21	1,479	41.43
	TM30-NE-11"BSPT-S	30	13	-0,009	TMH....-...-30		78.57
	TM40-NE-11"BSPT-S	40	17	0,373	TMH....-...-40		96.43

BPT (National Pipe Taper) 60° inside - outside

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
18	TM14-NE-18" NPT-SXP	14	10	-0,056	TMH....-...-14T	1.051	26.79
	TM21-NE-18" NPT-S	21	14	0,622	TMH....-...-21T		41.43
14	TM14-NE-14" NPT-SXP	14	7	0,650	TMH....-...-14T	1.369	26.79
	TM21-NE-14" NPT-SXP	21	11	0,521	TMH....-...-21T		41.43
11,5	TM21-NE-11.5" NPT-S	21	9	0,561	TMH....-...-21	1.678	41.43
	TM30-NE-11.5" NPT-S	30	13	0,643	TMH....-...-30		78.57
	TM40-NE-11.5" NPT-S	40	18	0,122	TMH....-...-40		96.43
8	TM30-NE- 8" NPT-S	30	9	0,713	TMH....-...-30	2.448	78.57
	TM40-NE- 8" NPT-S	40	12	0,950	TMH....-...-40		96.43

BPTF (Dryseal Pipe Thread) 60° inside – outside

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
18	TM14-NE-18" NPTF-SXP	14	10	-0,056	TMH....-...-14T	1.002	26.79
	TM21-NE-18" NPTF-S	21	14	0,622	TMH....-...-21T		41.43
14	TM14-NE-14" NPTF-SXP	14	7	0,650	TMH....-...-14T	1.352	26.79
	TM21-NE-14" NPTF-SXP	21	11	0,521	TMH....-...-21T		41.43
11,5	TM21-NE-11.5" NPTF-S	21	9	0,561	TMH....-...-21	1.636	41.43
	TM30-NE-11.5" NPTF-S	30	13	0,643	TMH....-...-30		78.57
	TM40-NE-11.5" NPTF-S	40	18	0,122	TMH....-...-40		96.43
8	TM30-NE- 8" NPTF-S	30	9	0,713	TMH....-...-30	2.387	78.57
	TM40-NE- 8" NPTF-S	40	12	0,950	TMH....-...-40		96.43



NPSM (Straight Pipe Mechanical) 60° inside

Coating SX 85 +, Price according to table X 1,30 - New !!! Coating SX DIA +, prices on request.

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
18	TM14-N-18" NPSM	14	9	0,650	TMH.....-14	0,764	26.79
14	TM14-N-14" NPSM	14	8	-0,257	TMH.....-14	0.982	26.79
	TM21-N-14" NPSM	21	11	0,521	TMH.....-21		41.43
11,5	TM21-N-11.5" NPSM	21	9	0,561	TMH.....-21	1.1955	41.43
	TM30-N-11.5" NPSM	30	13	0,643	TMH.....-30		78.57
8	TM30-N- 8" NPSM	30	9	0,713	TMH.....-30	1,718	78.57

NPSM (Straight Pipe Mechanical) 60 outside

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
18	TM14-E-18" NPSM	14	9	0,650	TMH.....-14	0,829	26.79
14	TM14-E-14" NPSM	14	8	-0,257	TMH.....-14	1,0653	26.79
	TM21-E-14" NPSM	21	11	0,521	TMH.....-21		41.43
11,5	TM21-E-11.5" NPSM	21	9	0,561	TMH.....-21	1,2969	41.43
	TM30-E-11.5" NPSM	30	13	0,643	TMH.....-30		78.57
8	TM30-E- 8" NPSM	30	9	0,713	TMH.....-30	1,864	78.57

NPSF (Straight Pipe Dryseal) 60° inside - outside

Pitch	Reference	L	NF	Distance between the side of the insert and the first thread form	Porte-outil	H prof.	Prix €
18	TM14-NE-18" NPSF	14	9	0,650	TMH.....-14	0,829	26.79
14	TM14-NE-14" NPSF	14	8	-0,257	TMH.....-14	1.396	26.79
	TM21-NE-14" NPSF	21	11	0,521	TMH.....-21		41.43
11,5	TM21-NE-11.5" NPSF	21	9	0,561	TMH.....-21	1.692	41.43
	TM30-NE-11.5" NPSF	30	13	0,643	TMH.....-30		78.57
8	TM30-NE- 8" NPSF	30	9	0,713	TMH.....-30	2.443	78.57

a passion - a Know-how
a program - specialties

Toolholders TM

Keys and screw for toolholders

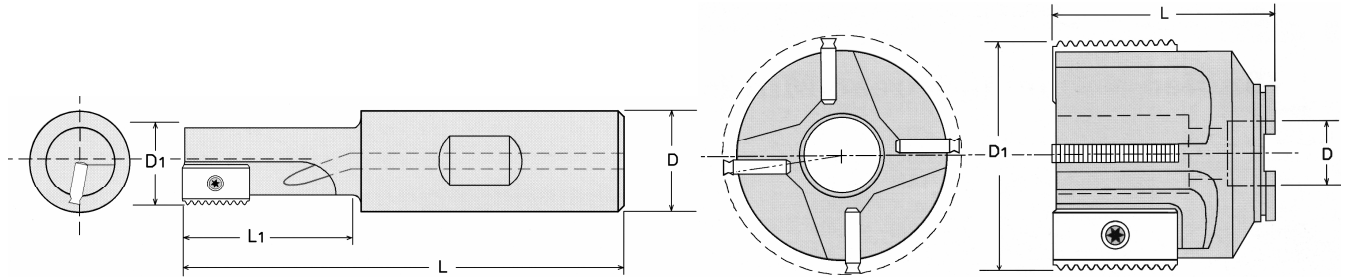
Our manufacturing :

52% Standard - Tools catalogue - 48% Special tools - according to drawings,
Specifically for :

Medical - Dental - Aerospace - Military - Petrol - Automotive

PRICELIST





Toolholder TM

STRAIGHT FLUTED

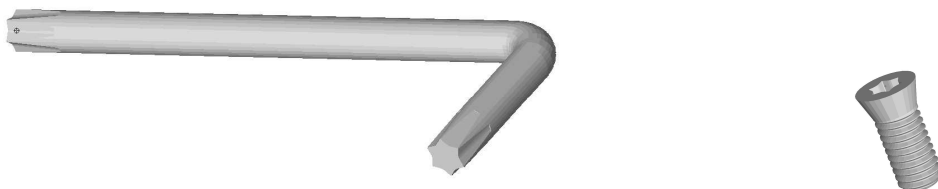
Cylindricity of $\varnothing 0,01$ mm
With inserts $\varnothing 0,03$ mm

Insert	Reference	Z	L	L1	D	D1	Price €	
TM14	TMH02012-1-14	1	75	20	20	12	107.14	
	TMH02017-1-14		85	30		17	128.57	
TM21	TMH02020-1-21		93	40	20	20	135.71	
TM30	TMH02529-1-30		108	50	25	29	150.00	
	TMH03238-1-30		130	70	32	38	164.29	
TM40	TMH04044-1-40		153	82	40	44	200.00	
TM14	TMH02020-2-14		2	93	40	20	20	214.29
TM21	TMH02530-2-21			108	50	25	30	221.43
TM30	TMH03240-2-30			130	70	32	40	257.14
TM40	TMH04050-2-40			153	82	40	50	264.29
TM30	TMH06322-4-30	4	50	30	22	63	421.43	
	TMH08027-5-30	5	55		27	80	435.71	
TM40	TMH08027-5-40		65	40	80	442.86		
TM30	TMH10032-5-30		60	30	100	457.14		
TM40	TMH10032-5-40		70	40	100	457.15		

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 a program - specialties



Keys and screw

Insert	Reference	N° Art.	Keys	Prix €	Screw	Price €
TM14	TMH02012-1-14	T7	Torx N° 7	6.--	M 2.5 x 6	2.86
	TMH02017-1-14					
TM21	TMH02020-1-21	T20	Torx N° 20	7.32	M 4 x 10	
TM30	TMH02529-1-30	T20	Torx N° 20		M 5 x 12	
	TMH03238-1-30				M 5 x 12	
TM40	TMH04044-1-40	T20	Torx N° 20		M 5 x 12	
TM14	TMH02020-2-14	T7	Torx N° 7	6.--	M 2.5 x 6	
TM21	TMH02530-2-21	T20	Torx N° 20	7.32	M 4 x 10	
TM30	TMH03240-2-30	T20	Torx N° 20		M 5 x 12	
TM40	TMH04050-2-40	T20	Torx N° 20		M 5 x 12	
TM30	TMH06322-4-30	T20	Torx N° 20		M 5 x 12	
	TMH08027-5-30				M 5 x 12	
TM40	TMH08027-5-40	T20	Torx N° 20		M 5 x 12	
TM30	TMH10032-5-30	T20	Torx N° 20		M 5 x 12	
TM40	TMH10032-5-40	T20	Torx N° 20		M 5 x 12	

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