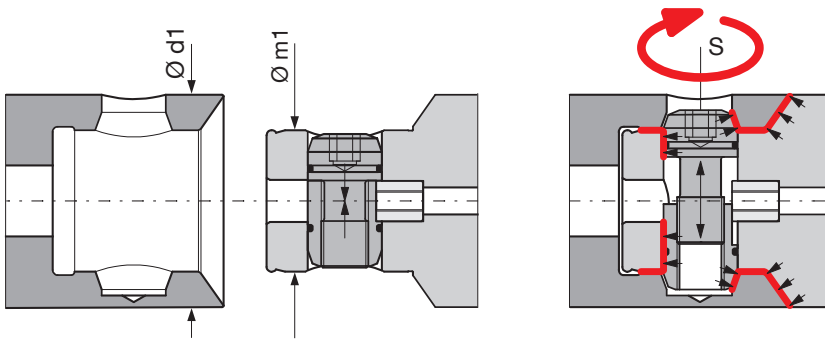


High-precision modular toolholders that allows to perform boring, milling and drilling operations with extreme flexibility and rigidity.

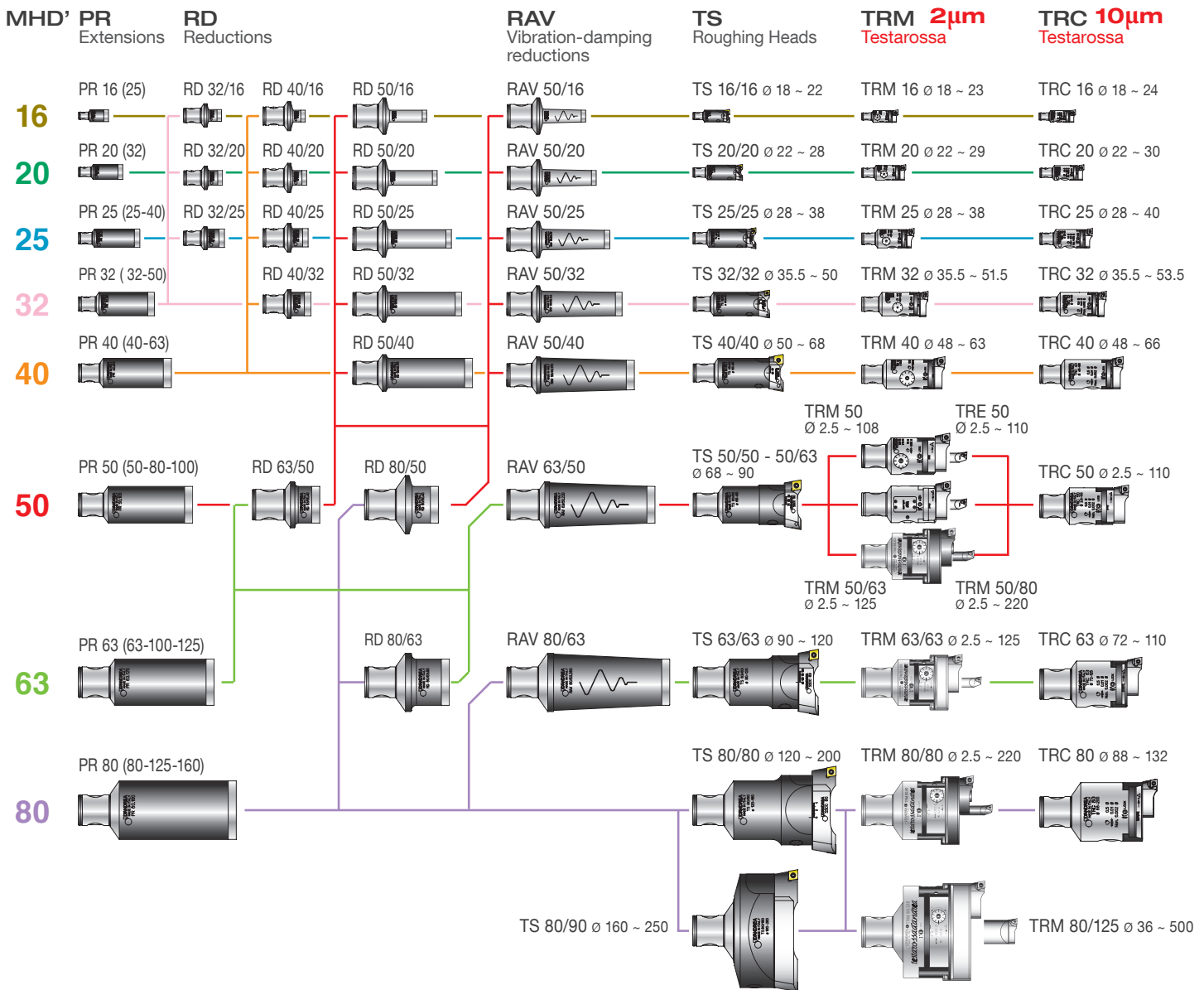
The MHD' coupling is the heart of the tool system Modulhard'andrea. Available in 8 sizes, it guarantees the interchangeability of all the elements of the system, which includes arbors, extensions, reductions and toolholder adapters.



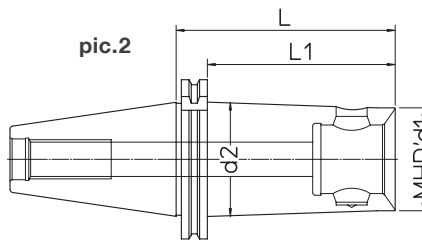
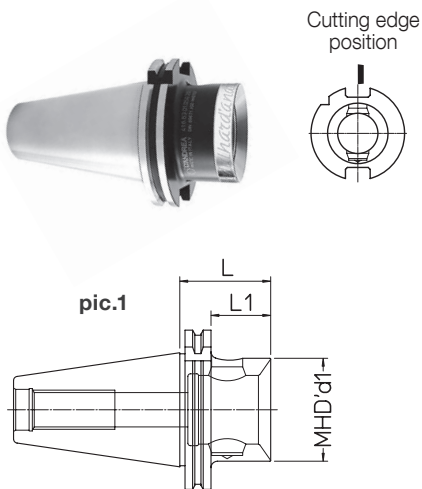
# MHD' COUPLING



MHD'	Ø d1	Ø m1	⬡ S	N-m
16	16	10	2,5	2 - 2,5
20	20	13	3	4 - 4,5
25	25	16	3	6,5 - 7,5
32	32	20	4	7 - 8
40	40	25	5	16 - 18
50	50	32	6	30 - 35
63	63	42	8	70 - 80
80	80	42	8	70 - 80



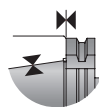
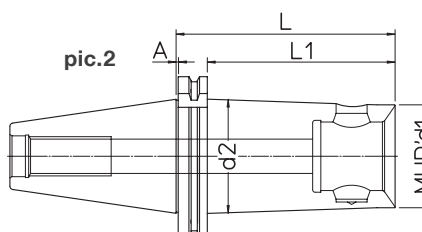
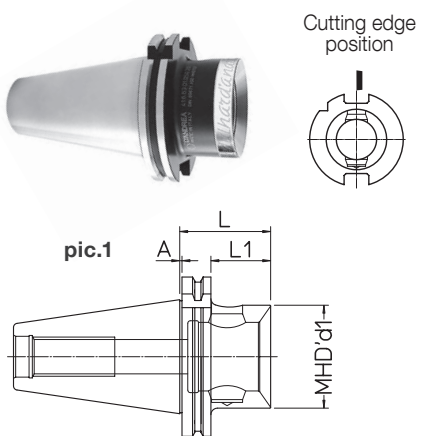
## DIN 69871 AD



DIN	REF.	CODE	MHD' d1	d2	L	L1	kg	pic.
30	DIN69871-AD30 MHD'50.60	416500103020	50	60	60	0.6	1	
40	DIN69871-AD40 MHD'16.40	416160414020	16		40	21	0.7	1
40	DIN69871-AD40 MHD'16.63	416160614020	16	17.5	63	44	0.8	2
40	DIN69871-AD40 MHD'16.100	416161014020	16	20	100	81	0.9	2
40	DIN69871-AD40 MHD'20.50	416200514020	20		50	31	0.8	1
40	DIN69871-AD40 MHD'20.80	416200814020	20	22.5	80	61	0.9	2
40	DIN69871-AD40 MHD'20.125	416201214020	20	25.5	125	106	1	2
40	DIN69871-AD40 MHD'25.50	416250514020	25		50	31	0.9	1
40	DIN69871-AD40 MHD'25.80	416250814020	25	27	80	61	1	2
40	DIN69871-AD40 MHD'25.125	416251214020	25	30	125	106	1.1	2
40	DIN69871-AD40 MHD'32.50	416320514020	32		50	31	1	1
40	DIN69871-AD40 MHD'32.80	416320814020	32	33.5	80	61	1.1	2
40	DIN69871-AD40 MHD'32.125	416321214020	32	36.5	125	106	1.2	2
40	DIN69871-AD40 MHD'40.45	416400104020	40		45	26	0.5	1
40	DIN69871-AD40 MHD'40.120	416401214020	40	44.5	120	101	1.4	2
40	DIN69871-AD40 MHD'50.48	416500104020	50		48	29	0.9	1
40	DIN69871-AD40 MHD'50.120	416501214020	50		120	101	1.7	1
40	DIN69871-AD40 MHD'63.80	416630104020	63		80		1.5	1
50	DIN69871-AD50 MHD'50.48	416500105020	50		48	29	2.5	1
50	DIN69871-AD50 MHD'50.120	416501215020	50	60	120	101	3.5	2
50	DIN69871-AD50 MHD'63.56	416630105020	63		56	37	2.8	1
50	DIN69871-AD50 MHD'63.150	416631515020	63	70	150	131	5	2
50	DIN69871-AD50 MHD'80.62	416800105020	80		62	43	3.4	1
50	DIN69871-AD50 MHD'80.180	416801815020	80		180	161	7.6	1

B-shape arbors - on request

## DIN 69871 FC AD FACE CONTACT

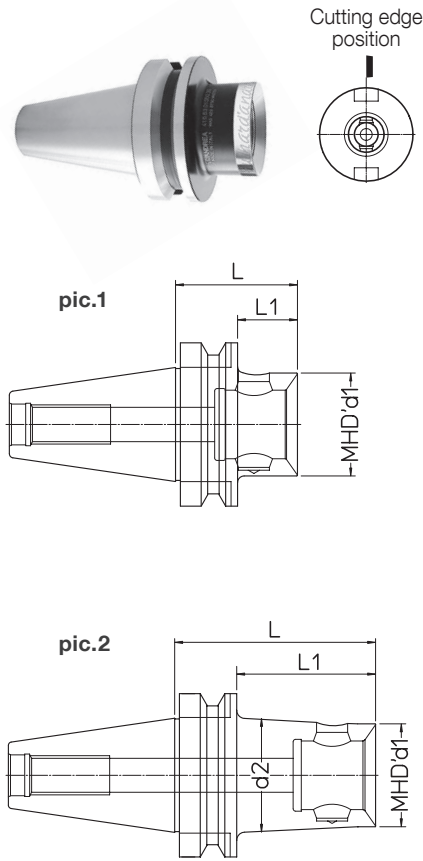


DIN	REF.	CODE	MHD' d1	d2	A	L	L1	kg	pic.
40	DIN69871-AD40 FC MHD'50.48	416500104020F	50	1	48	29	0.9	1	
40	DIN69871-AD40 FC MHD'50.120	416501214020F	50	1	120	101	1.7	1	
40	DIN69871-AD40 FC MHD'63.80	416630104020F	63	1	80		1.5	1	
50	DIN69871-AD50 FC MHD'50.48	416500105020F	50	1.5	48	29	2.5	1	
50	DIN69871-AD50 FC MHD'50.120	416501215020F	50	59	1.5	120	101	3.5	2
50	DIN69871-AD50 FC MHD'50.200	416502015020F	50	68	1.5	200	181	6.1	2
50	DIN69871-AD50 FC MHD'63.56	416630105020F	63	1.5	56	37	2.8	1	
50	DIN69871-AD50 FC MHD'63.150	416631515020F	63	75.5	1.5	150	131	5.2	2
50	DIN69871-AD50 FC MHD'63.250	416632515020F	63	80	1.5	250	231	7.1	2
50	DIN69871-AD50 FC MHD'80.62	416800105020F	80	1.5	62	43	3.4	1	
50	DIN69871-AD50 FC MHD'80.180	416801815020F	80	1.5	180	161	6.9	1	
50	DIN69871-AD50 FC MHD'80.300	416803015020F	80	1.5	300	281	9.2	1	

B-shape arbors - on request

Manufactured according to DIN 69871 and MAS 403 BT standards,  
made in case-hardened, tempered and grinded steel. BALANCING UP TO 8000 RPM.

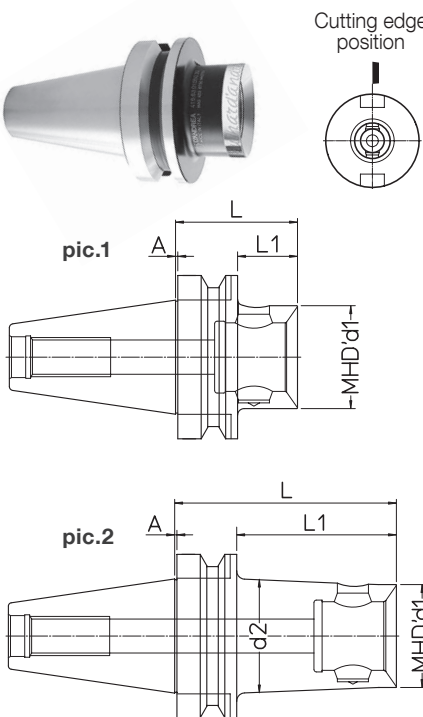
## MAS 403 BT AD



BT	REF.	CODE	MHD' d1	d2	L	L1	kg	pic.
30	MAS403 BT30-AD MHD'50.60	416500103030	50		60		0.7	1
40	MAS403 BT40-AD MHD'16.45	416160414030	16		45	18	0.8	1
40	MAS403 BT40-AD MHD'16.63	416160614030	16	17	63	36	0.9	2
40	MAS403 BT40-AD MHD'16.100	416161014030	16	19.5	100	73	1	2
40	MAS403 BT40-AD MHD'20.50	416200514030	20		50	23	0.9	1
40	MAS403 BT40-AD MHD'20.80	416200814030	20	22	80	53	1	2
40	MAS403 BT40-AD MHD'20.125	416201214030	20	25	125	98	1.1	2
40	MAS403 BT40-AD MHD'25.50	416250514030	25		50	23	1	1
40	MAS403 BT40-AD MHD'25.80	416250814030	25	26.5	80	53	1.1	2
40	MAS403 BT40-AD MHD'25.125	416251214030	25	29.5	125	98	1.2	2
40	MAS403 BT40-AD MHD'32.50	416320514030	32			23	1.1	1
40	MAS403 BT40-AD MHD'32.80	416320814030	32	33	80	53	1.2	2
40	MAS403 BT40-AD MHD'32.125	416321214030	32	36	125	98	1.4	2
40	MAS403 BT40 AD MHD'40.45	416400104030	40		45	18	0.6	1
40	MAS403 BT40-AD MHD'40.120	416401214030	40	44.5	120	93	0.9	2
40	MAS403 BT40-AD MHD'50.48	416500104030	50		48	21	0.9	1
40	MAS403 BT40-AD MHD'50.120	416501214030	50		120	93	1.9	2
40	MAS403 BT40-AD MHD'63.66	416630104030	63		66		1.2	1
50	MAS403 BT50-AD MHD'50.66	416500105030	50		66	28	3.3	1
50	MAS403 BT50-AD MHD'50.120	416501215030	50	60	120	82	4.2	2
50	MAS403 BT50-AD MHD'63.75	416630105030	63		75	37	3.7	1
50	MAS403 BT50-AD MHD'63.150	416631515030	63	70	150	112	5.8	2
50	MAS403 BT50-AD MHD'80.75	416800105030	80		75	37	4	1
50	MAS403 BT50-AD MHD'80.180	416801815030	80		180	142	7.5	2

B-shape arbors – on request

## MAS 403 BT FC AD FACE CONTACT

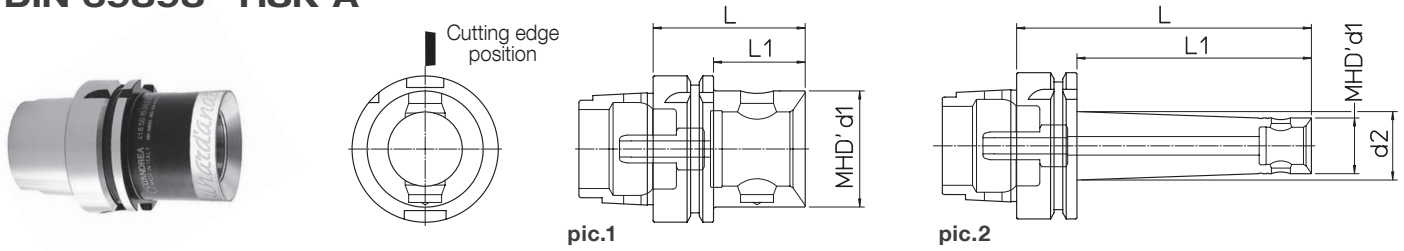


BT	REF.	CODE	MHD' d1	d2	A	L	L1	kg	pic.
40	MAS403 BT40-AD FC MHD'50.48	416500104030F	50	1	48	21	0.9	1	
40	MAS403 BT40-AD FC MHD'50.120	416501214030F	50	1	120	93	1.9	1	
40	MAS403 BT40-AD FC MHD'63.66	416630104030F	63	1	66		1.2	1	
50	MAS403 BT50-AD FC MHD'50.66	416500105030F	50	1.5	66	28	3.2	1	
50	MAS403 BT50-AD FC MHD'50.120	416501215030F	50	57.5	1.5	120	82	4.2	2
50	MAS403 BT50-AD FC MHD'50.200	416502015030F	50	66	1.5	200	162	4.5	2
50	MAS403 BT50-AD FC MHD'63.75	416630105030F	63	1.5	75	37	3.7	1	
50	MAS403 BT50-AD FC MHD'63.150	416631515030F	63	73.5	1.5	150	112	5.8	2
50	MAS403 BT50-AD FC MHD'63.250	416632515030F	63	84	1.5	250	212	6.1	2
50	MAS403 BT50-AD FC MHD'80.75	416800105030F	80	1.5	75	37	4	1	
50	MAS403 BT50-AD FC MHD'80.180	416801815030F	80	1.5	180	142	7.5	1	
50	MAS403 BT50-AD FC MHD'80.300	416803015030F	80	1.5	300	262	9.2	1	

B-shape arbors – on request

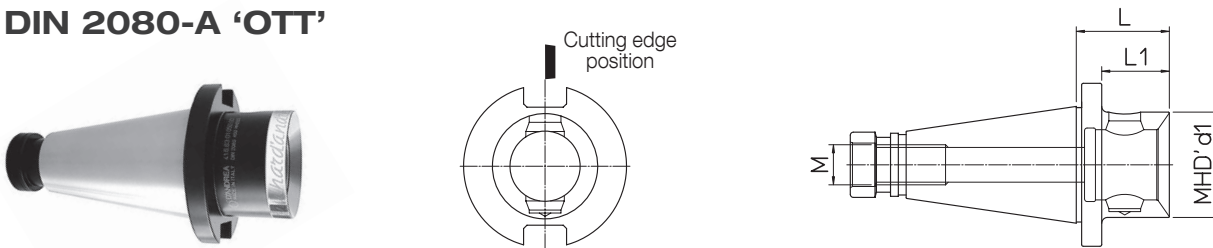


## DIN 69893 HSK-A



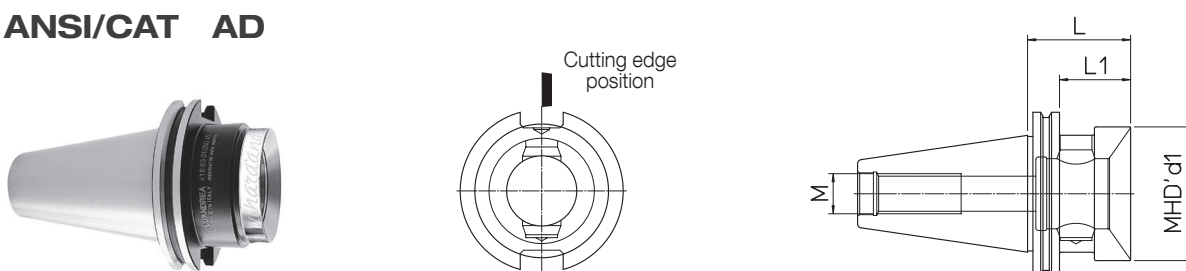
HSK-A	REF.	CODE	MHD' d1	d2	L	L1	kg	pic.	Supplied with coolant tube	
50	HSK-A50 MHD'50.66	416501505020	50		66		0.6	1		
63	HSK-A63 MHD'16.100	416161056320	16	19.5	100	74	0.8	2		
63	HSK-A63 MHD'20.125	416201256320	20	25	125	99	0.9	2		
63	HSK-A63 MHD'25.125	416251256320	25	29.5	125	99	1	2		
63	HSK-A63 MHD'32.90	416320956320	32	33.5	90	64	1	2		
63	HSK-A63 MHD'32.125	416321256320	32	36	125	99	1.2	2		
63	HSK-A63 MHD'40.60	416401506320	40		60	34	0.7	1		
63	HSK-A63 MHD'40.120	416401506328	40	46	120	94	1.4	2		
63	HSK-A63 MHD'50.66	416501506320	50		66	40	0.9	1		
63	HSK-A63 MHD'50.120	416501506328	50		120	94	1.7	1		
63	HSK-A63 MHD'63.75	416631506320	63		75		1.1	1		
80	HSK-A80 MHD'50.70	416501508020	50		70	44	1.5	1		
80	HSK-A80 MHD'63.80	416631508020	63		80	54	1.8	1		
100	HSK-A100 MHD'50.72	416501510020	50		72	43	2.4	1		
100	HSK-A100 MHD'63.82	416631510020	63		82	53	2.7	1		
100	HSK-A100 MHD'50.120	416501510028	50	60	120	91	3.2	2		
100	HSK-A100 MHD'80.88	416801510020	80		88	59	3	1		
100	HSK-A100 MHD'63.150	416631510028	63	70	150	121	4.5	2		
100	HSK-A100 MHD'80.180	416801510028	80		180	151	6.5	1		

## DIN 2080-A 'OTT'



DIN	REF.	CODE	MHD' d1	L	L1	M	kg		
30	DIN2080-A30 MHD'50.58	416500103000	50	58		M12	0.6		
40	DIN2080-A40 MHD'50.48	416500104000	50	48	36.5	M16	0.9		
40	DIN2080-A40 MHD'63.60	416630104000	63	60		M16	1.2		
50	DIN2080-A50 MHD'50.48	416500105000	50	48	33	M24	2.6		
50	DIN2080-A50 MHD'63.56	416630105000	63	56	41	M24	2.7		
50	DIN2080-A50 MHD'80.60	416800105000	80	60	45	M24	3.2		

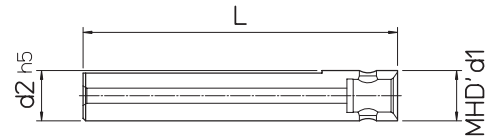
## ANSI/CAT AD



ANSI/CAT	REF.	CODE	MHD' d1	L	L1	M	kg		
40	ANSI/CAT40 MHD'50.66	416500104040	50	66	47	M16	1.1		
40	ANSI/CAT40 MHD'63.100	416630104040	63	100		M16	1.9		
50	ANSI/CAT50 MHD'50.48	416500105040	50	48	29	M24	2.4		
50	ANSI/CAT50 MHD'63.56	416630105040	63	56	37	M24	2.9		
50	ANSI/CAT50 MHD'80.62	416800105040	80	62	43	M24	3.2		

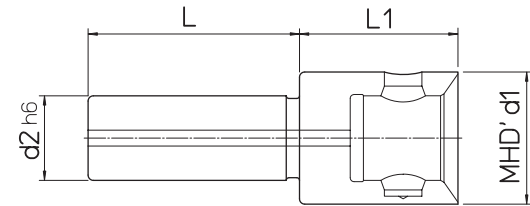
## BR STEEL BARS

MHD'16 - MHD'20



pic.1

MHD'32 - MHD'50

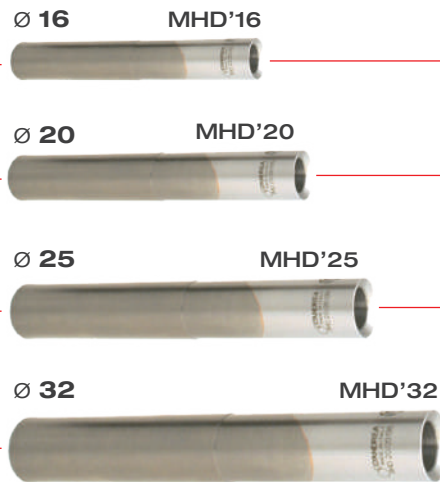
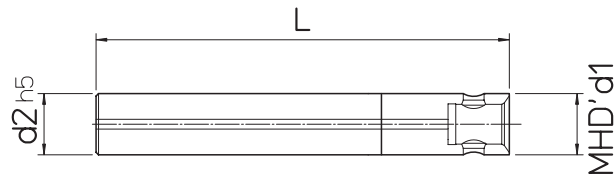


pic.2

REF.	CODE	MHD' d1	L	L1	d2	kg	pic.
BR 16/16.100	657081601001	16	100		16	0.15	1
BR 20/20.125	657082001251	20	125		20	0.3	1
BR 25/32.35	416320802500	32	65	35	25	0.7	2
BR 32/50.60	416500803200	50	80	60	32	1	2

## BMD CARBIDE BARS

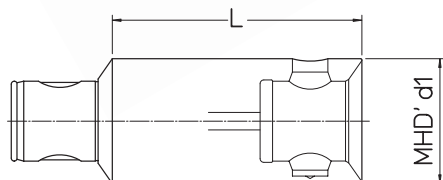
MONOforce  
see p.44-45



REF.	CODE	MHD' d1	d2	L	kg
BMD 16/16.110	657081601105	16	16	110	0.3
BMD 16/16.140	657081601405	16	16	140	0.4
BMD 16/16.170	657081601705	16	16	170	0.5
BMD 20/20.135	657082001355	20	20	135	0.6
BMD 20/20.170	657082001705	20	20	170	0.75
BMD 20/20.210	657082002105	20	20	210	0.9
BMD 25/25.160	657082501605	25	25	160	1
BMD 25/25.205	657082502055	25	25	205	1.3
BMD 25/25.255	657082502555	25	25	255	1.6
BMD 32/32.195	657083201955	32	32	195	2.1
BMD 32/32.250	657083202505	32	32	250	2.8
BMD 32/32.315	657083203155	32	32	315	3.5

## PR EXTENSIONS

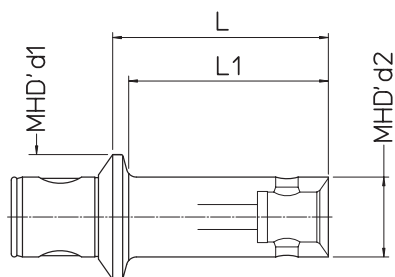
For each MHD size there are extensions of different lengths that can be used to achieve the desired machining depths.



REF.	CODE	MHD' d1	L	kg
PR 16.25	656901600250	16	25	0.04
PR 20.32	656902000320	20	32	0.07
PR 25.25	656902500250	25	25	0.09
PR 25.40	656902500400	25	40	0.15
PR 32.32	656903200320	32	32	0.2
PR 32.50	656903200500	32	50	0.3
PR 40.40	656904000400	40	40	0.4
PR 40.63	656904000630	40	63	0.6
PR 50.50	656905000500	50	50	0.7
PR 50.80	656905000800	50	80	1.1
PR 50.100	656905001000	50	100	1.5
PR 63.63	656906300630	63	63	1.4
PR 63.100	656906301000	63	100	2.2
PR 63.125	656906301250	63	125	2.9
PR 80.80	656908000800	80	80	3
PR 80.125	656908001250	80	125	4.6
PR 80.160	656908001600	80	160	6.1

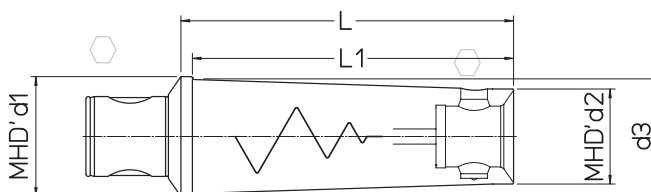
## RD REDUCTIONS

The reductions allow the use of MHD components of a smaller size thereby optimising the composition of the tool according to the overall dimensions.



REF.	CODE	MHD' d1	MHD' d2	L	L1	kg
RD 20/16.20	657002000160	20	16	20	16	0.05
RD 25/16.20	657002500160	25	16	20	15	0.07
RD 25/20.25	657002500200	25	20	25	20	0.08
RD 32/16.24	657003200160	32	16	24	18	0.10
RD 32/20.25	657003200200	32	20	25	20	0.12
RD 32/25.28	657003200250	32	25	28	23	0.14
RD 40/16.24	657004000160	40	16	24	17	0.18
RD 40/20.26	657004000200	40	20	26	20	0.2
RD 40/25.28	657004000250	40	25	28	22	0.25
RD 40/32.32	657004000320	40	32	32	27	0.3
RD 50/16.24	657005000160	50	16	24	15	0.34
RD 50/16.40	657005000162	50	16	40	32	0.2
RD 50/16.74	657005000163	50	16	74	65	0.25
RD 50/20.26	657005000200	50	20	26	18	0.37
RD 50/20.70	657005000202	50	20	70	62	0.3
RD 50/20.93	657005000203	50	20	93	85	0.35
RD 50/25.28	657005000250	50	25	28	21	0.4
RD 50/25.87	657005000252	50	25	87	80	0.6
RD 50/25.117	657005000253	50	25	117	110	0.65
RD 50/32.32	657005000320	50	32	32	25	0.45
RD 50/32.87	657005000322	50	32	87	80	0.75
RD 50/32.144	657005000323	50	32	144	137	1
RD 50/40.36	657005000400	50	40	36	30	0.5
RD 50/40.87	657005000402	50	40	87	80	0.9
RD 50/40.176	657005000403	50	40	176	170	1.8
RD 63/50.40	657006300500	63	50	40	34	0.9
RD 80/50.45	657008000500	80	50	45	36	1.2
RD 80/63.60	657008000630	80	63	60	52	1.7

## RAV VIBRATION-DAMPING



Anti-vibration reductions for deep or heavy-duty machining.

REF.	CODE	MHD' d1	MHD' d2	d3	L	L1	kg
RAV 50/16.74	657005000165	50	16	17.5	74	65	0.4
RAV 50/20.93	657005000205	50	20	21.5	93	85	0.5
RAV 50/25.117	657005000255	50	25	27	117	110	0.8
RAV 50/32.144	657005000325	50	32	35	144	138	1.4
RAV 50/40.176	657005000405	50	40	47	176	170	2.5
RAV 63/50.220	657006300505	63	50	60	220	214	5.6
RAV 80/63.280	657008000635	80	63	77	280	272	10.6

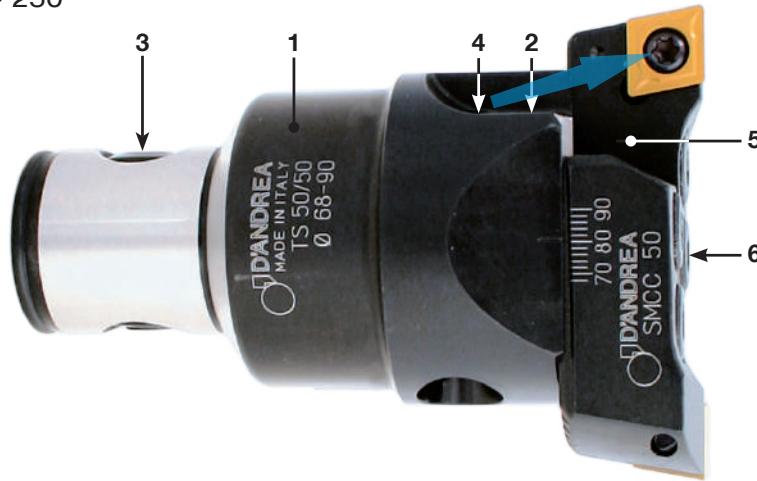
# BORING





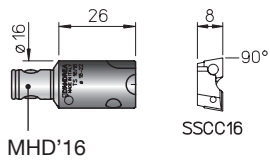
## TS 16 ~ 80 Ø 18 ~ 250

Simple and extremely rigid roughing heads, thanks to the serrated surfaces between the head body and the bit holders. The constant distance between the bit holder clamping screw and the cutting edge guarantees the stability of the system.

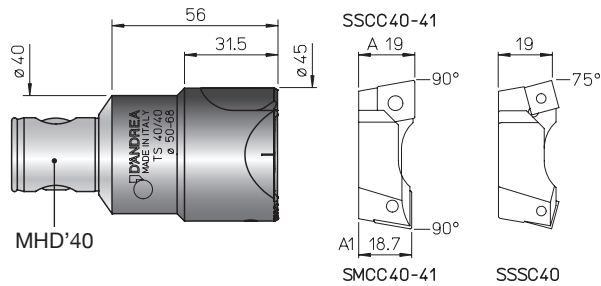


- 1. Body
- 2. Setting screws
- 3. Expanding pin
- 4. Coolant outlets  
**Max BAR 40**
- 5. Bit holders
- 6. Tools clamp screws

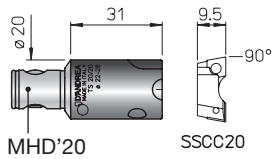
### TS 16/16 Ø 18 ~ 22



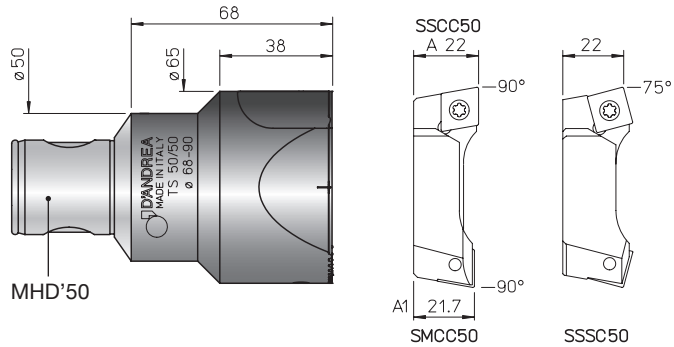
### TS 40/40 Ø 50 ~ 68



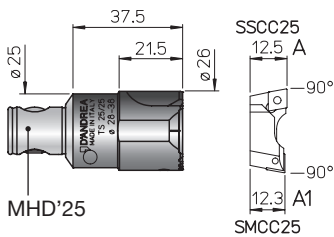
### TS 20/20 Ø 22 ~ 28



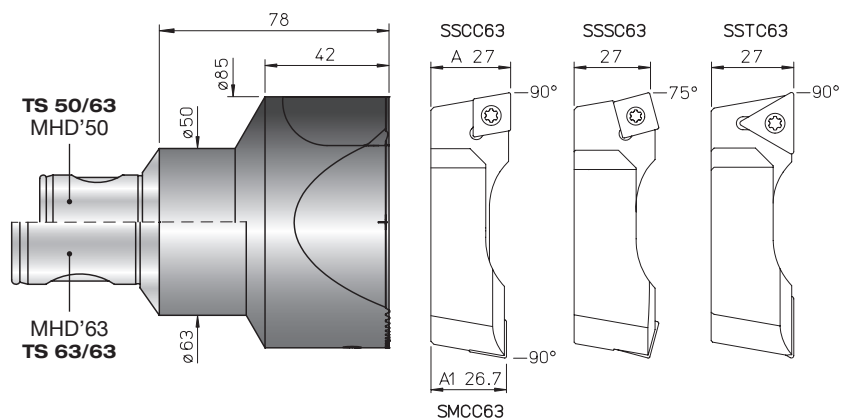
### TS 50/50 Ø 68 ~ 90



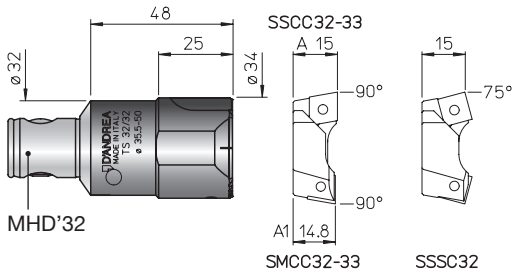
### TS 25/25 Ø 28 ~ 38



### TS 50/63 - TS 63/63 Ø 90 ~ 120



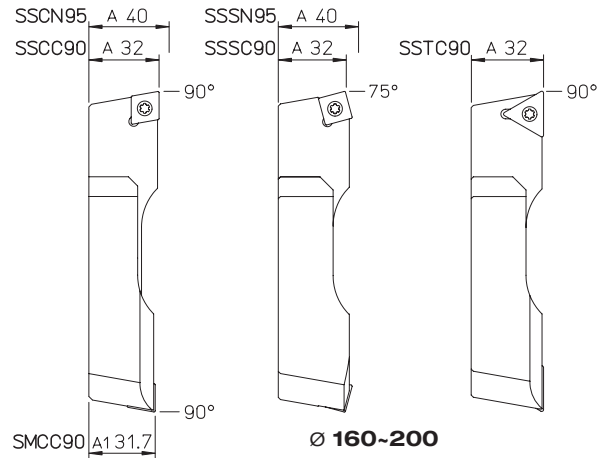
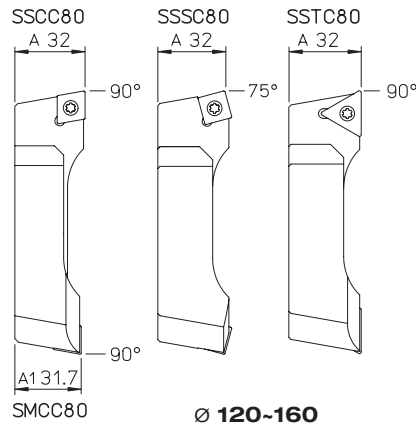
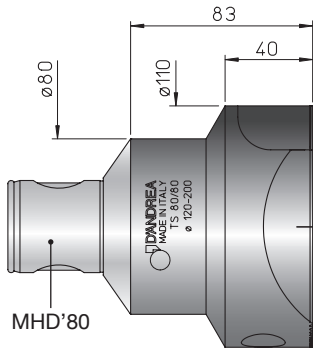
### TS 32/32 Ø 35.5 ~ 50



REF.	CODE	kg
TS 16/16	455501600340	0.05
TS 20/20	455502000400	0.09
TS 25/25	455502500510	0.2
TS 32/32	455503200638	0.35
TS 40/40	455504040070	0.7

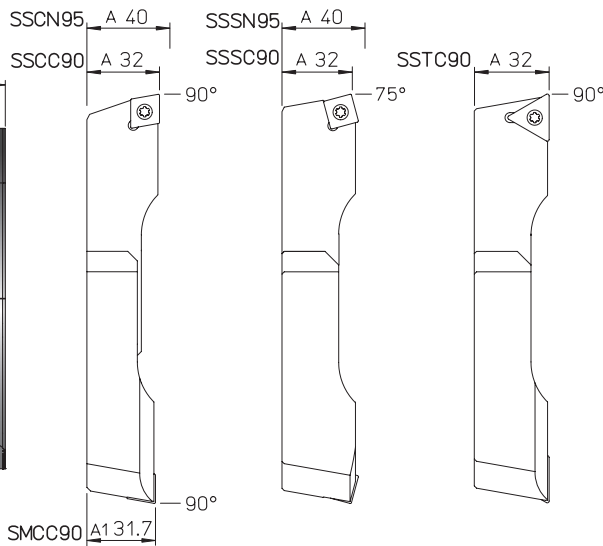
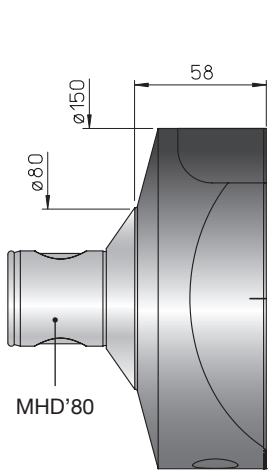
REF.	CODE	kg
TS 50/50	455505050090	1.5
TS 50/63	455505063100	2
TS 63/63	455506363100	3
TS 80/80	455508080110	5.3
TS 80/90	455508090090	6.3

## TS 80/80 Ø 120 ~ 200



## TS 80/90 Ø 160 ~ 250

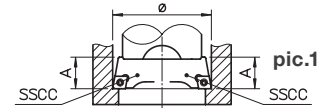
### USE



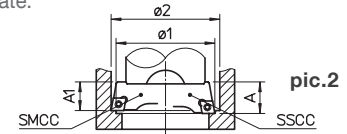
Ø 160~250

### USE TS for ROUGHING end SEMI-FINISHING operations

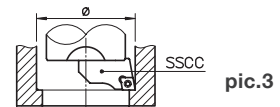
Roughing and semi-finishing operations. Cutting edges might be adjusted on a pre-setting bench and TS heads can be used in three different configurations, with a single cutting edge (pic. 3) or misaligned ones (pic.2) half the feed.



pic.1 with two SSCC bit holders aligned and on the same diameter for roughing operations with high feedrate.



pic.2 with one SSCC bit holder and one SMCC bit holder staggered and on a different diameter for roughing operations with high depth of cut.



pic.3 with a single bit holder for roughing or semi-finishing operations.

REF.	CODE		TS	TORX	T	kg
SSCC 16	470500516201	CCMT 0602..	25	08	0.003	
SSCC 20	470500520201	CCMT 0602..	25	08	0.006	
SSCC 25	470500525201	CCMT 0602..	25	08	0.1	
SSCC 32	470500532201	CCMT 0602..	25	08	0.02	
SSCC 33	470500532204	CCMT 09T3..	4	15	0.025	
SSCC 40	470500540201	CCMT 09T3..	4	15	0.06	
SSCC 41	470500540204	CCMT 1204..	5	25	0.06	
SSCC 50	470500550204	CCMT 1204..	5	25	0.1	
SSCC 63	470500563201	CCMT 1204..	5	25	0.2	
SSCC 80	470500580201	CCMT 1204..	5	25	0.5	
SSCC 90	470500590201	CCMT 1204..	5	25	0.7	
SSCN 95	470500595201	CNM. 1906..			0.9	
SSTC 63	470500563206	TCMT 2204..	5	25	0.2	
SSTC 80	470500580206	TCMT 2204..	5	25	0.5	
SSTC 90	470500590206	TCMT 2204..	5	25	0.7	

REF.	CODE		TS	TORX	T	kg
SMCC 25	470500525203	CCMT 0602..	25	08	0.01	
SMCC 32	470500532203	CCMT 0602..	25	08	0.02	
SMCC 33	470500532205	CCMT 09T3..	4	15	0.025	
SMCC 40	470500540203	CCMT 09T3..	4	15	0.06	
SMCC 41	470500540205	CCMT 1204..	5	25	0.06	
SMCC 50	470500550205	CCMT 1204..	5	25	0.1	
SMCC 63	470500563203	CCMT 1204..	5	25	0.2	
SMCC 80	470500580203	CCMT 1204..	5	25	0.5	
SMCC 90	470500590203	CCMT 1204..	25	08	0.7	
SSSC 32	470500532202	SCMT 09T3..	4	15	0.02	
SSSC 40	470500540202	SCMT 09T3..	4	15	0.06	
SSSC 50	470500550202	SCMT 1204..	5	25	0.1	
SSSC 63	470500563202	SCMT 1204..	5	25	0.2	
SSSC 80	470500580202	SCMT 1204..	5	25	0.5	
SSSC 90	470500590202	SCMT 1204..	5	25	0.7	
SSSN 95	470500595202	SNM. 1906..			0.9	

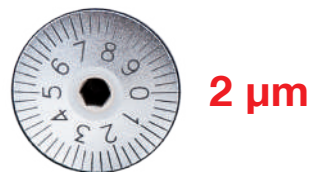
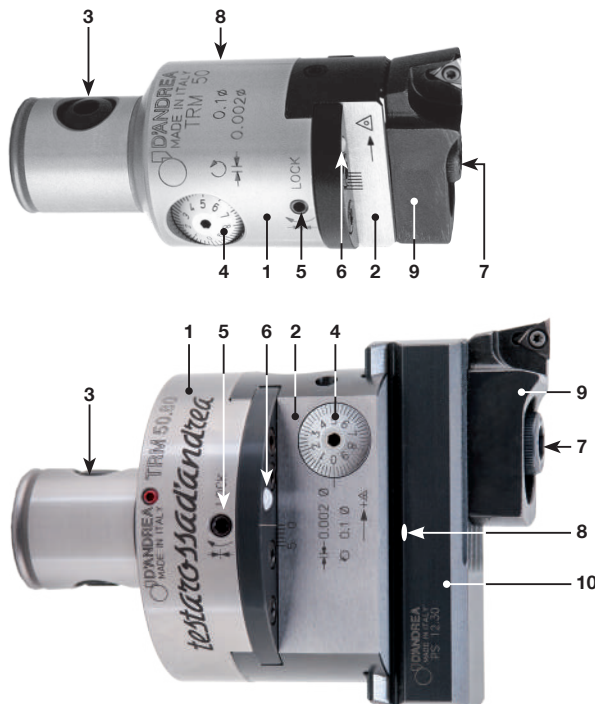
• For back-facing machining see p.26

## TRM 16 ~ 125 Ø 2.5 ~ 500

- TRM 16 RPM 12.000
- TRM 20 RPM 12.000
- TRM 25 RPM 10.000
- TRM 32 RPM 10.000
- TRM 40 RPM 8.000
- TRM 50 RPM 8.000
- TRM 63 RPM 6.000
- TRM 80 RPM 5.000
- TRM 125 RPM 4.000

TRM heads allow high precision machining and excellent surface finish in **IT6** grade of tolerance. The adjustment sensitivity of **1 micron** on the radius is easily readable on the vernier scale and can also be performed in the machine.

## TESTAROSSA MICROMETRIC



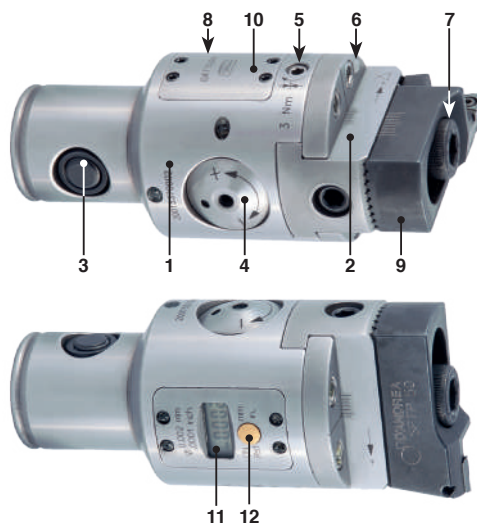
1. Body
2. Slide toolholder
3. Expanding radial pin
4. Micrometric vernier scale
5. Slide clamp screw
6. Coolant outlet
- Max BAR 40
7. Tools clamp screws
8. Oiler
9. Bit holder
10. Tool holder

## TRE 50 IP69K Ø 2.5 ~ 110

- TRE 50 69K RPM 20.000

TRE heads allow high precision machining and excellent surface finish in **IT6** grade of tolerance. The adjustment of **1 micron** on the radius is fast, accurate and easily readable on the integrated display. The **TRE 50** is resistant to infiltrations according to the **IP69K** grade.

## TESTAROSSA MICROMETRIC DIGITAL



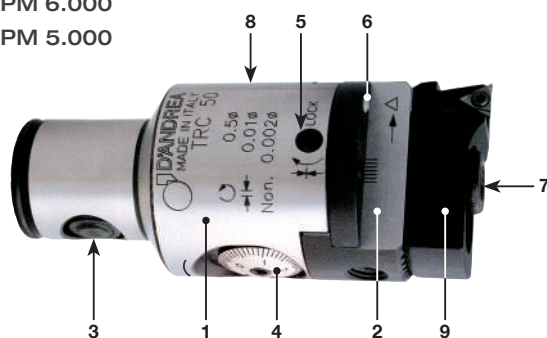
1. Expanding radial pin
2. Body
3. Set screw
4. Slide toolholder
5. Bit holder
6. Tools clamp screws
7. Coolant outlet
- Max BAR 40
8. Slide clamp screw
9. Battery compartment cover
10. Oiler
11. Digital display
12. Selection button

## TRC 16 ~ 80 Ø 18 ~ 132

- TRC 16 RPM 12.000
- TRC 20 RPM 12.000
- TRC 25 RPM 10.000
- TRC 32 RPM 10.000
- TRC 40 RPM 8.000
- TRC 50 RPM 8.000
- TRC 63 RPM 6.000
- TRC 80 RPM 5.000

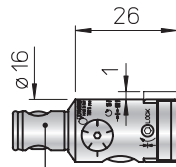
TRC heads allow high precision machining and excellent surface finish in **IT7** grade of tolerance. The adjustment of **5 micron** on the radius is easily readable on the vernier scale and can also be performed on the machine.

## TESTAROSSA CENTESIMAL

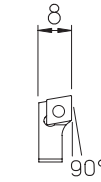


1. Body
2. Slide toolholder
3. Expanding radial pin
4. Vernier scale
5. Slide clamp screw
6. Coolant outlet
- Max BAR 40
7. Tools clamp screws
8. Oiler
9. Bit holder

TRM 16 Ø 18 ~ 23

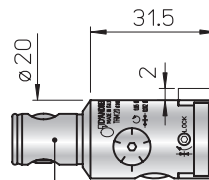


MHD'16

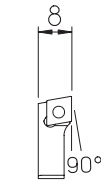


SFCC16

TRM 20 Ø 22 ~ 29

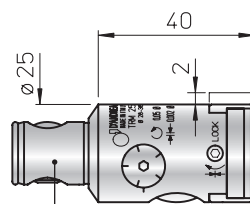


MHD'20

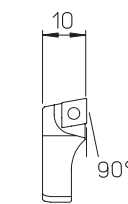


SFCC20

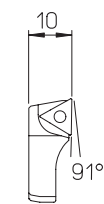
TRM 25 Ø 28 ~ 38



MHD'25

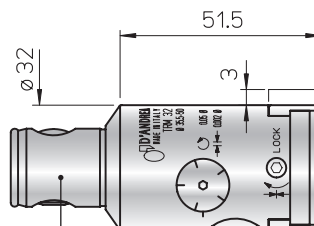


SFCC25

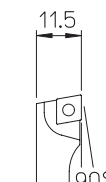


SFTP25

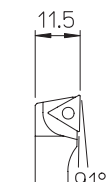
TRM 32 Ø 35.5 ~ 51.5



MHD'32

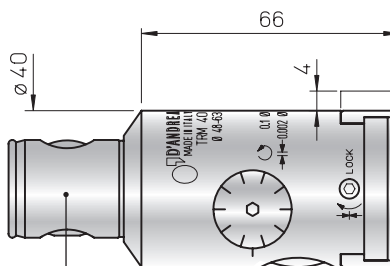


SFCC32

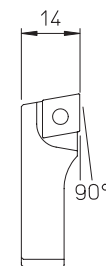


SFTP32

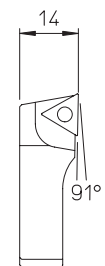
TRM 40 Ø 48 ~ 63



MHD'40



SFCC40



SFTP40

REF.	CODE	kg
TRM 16	455001600341	0.05
TRM 20	455002000401	0.1
TRM 25	455002500500	0.2
TRM 32	455003200630	0.35
TRM 40	455004000800	0.7

REF.	CODE		TORX T	kg
SFCC 16	470500516002	CCGT 0602..	TS 25	08 0.003
SFCC 20	470500520002	CCGT 0602..	TS 25	08 0.005
SFCC 25	470500525002	CCGT 0602..	TS 25	08 0.01
SFCC 32	470500532002	CCGT 0602..	TS 25	08 0.02
SFCC 40	470500540002	CCGT 09T3..	TS 4	15 0.04
SFTP 25	470500525001	TPGX 0902..	CS 250T	08 0.01
SFTP 32	470500532001	TPGX 0902..	CS 250T	08 0.02
SFTP 40	470500540001	TPGX 1103..	CS 300890T	08 0.04

• For back-facing machining see p.26

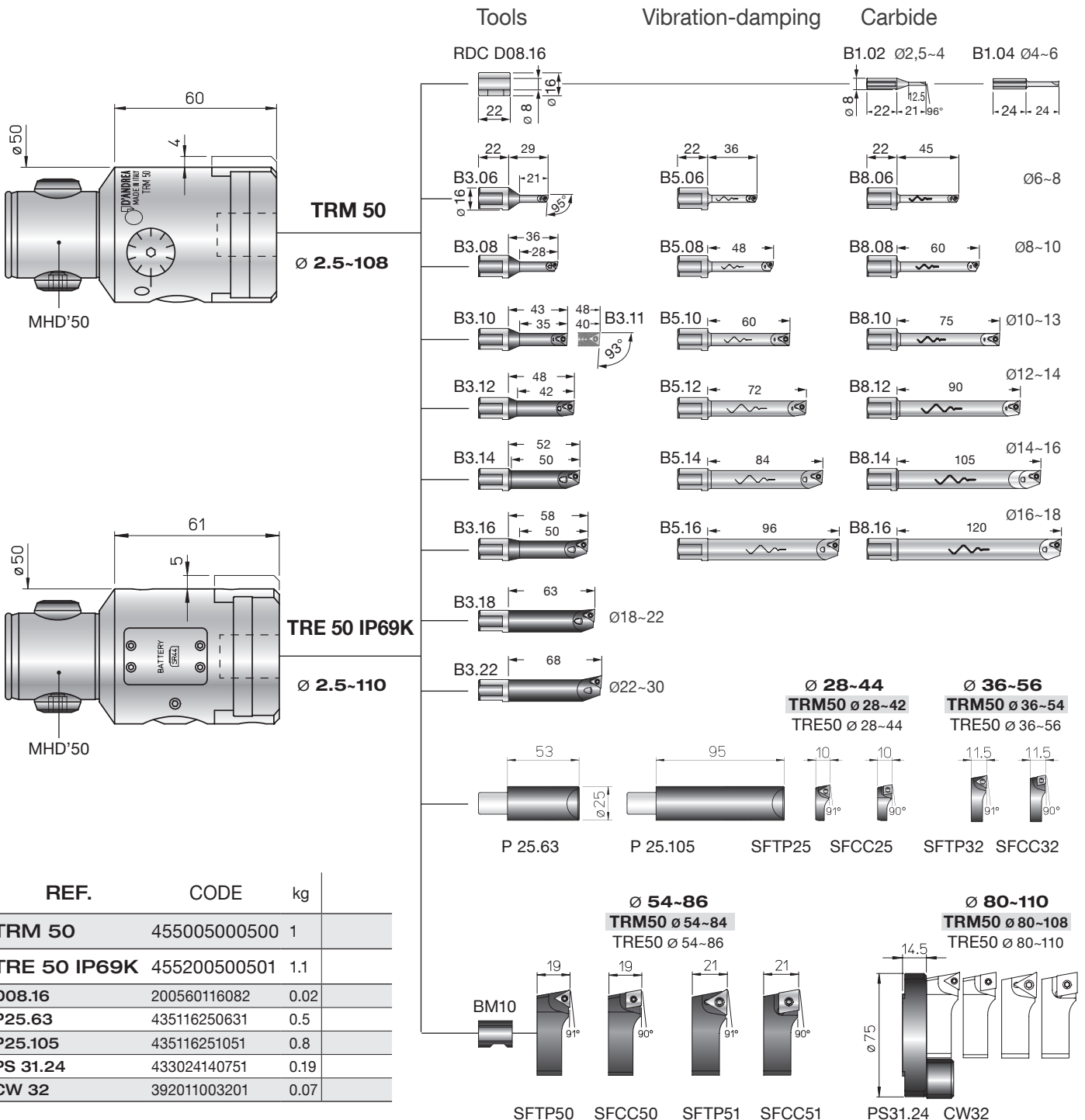


**TRM 50** Ø 2.5 ~ 108

**TRE 50 IP69K** Ø 2.5 ~ 110



**2 μm**



## KIT K01 TRM 50 Ø 6 ~ 108



- 1 TRM 50** 1 SFTP 25
- 1 B3.06 1 SFTP 32
- 1 B3.08 1 SFTP 50
- 1 B3.11 1 P 25.63
- 1 B3.16 1 PS 31.24
- 1 B3.22 1 CW 32
- 5 TPGX 090202L DC100
- 1 TPGX 110302L DC100
- 2 WCGT 020102L DC10

## KIT K01 TRE 50 IP69K Ø 6 ~ 110



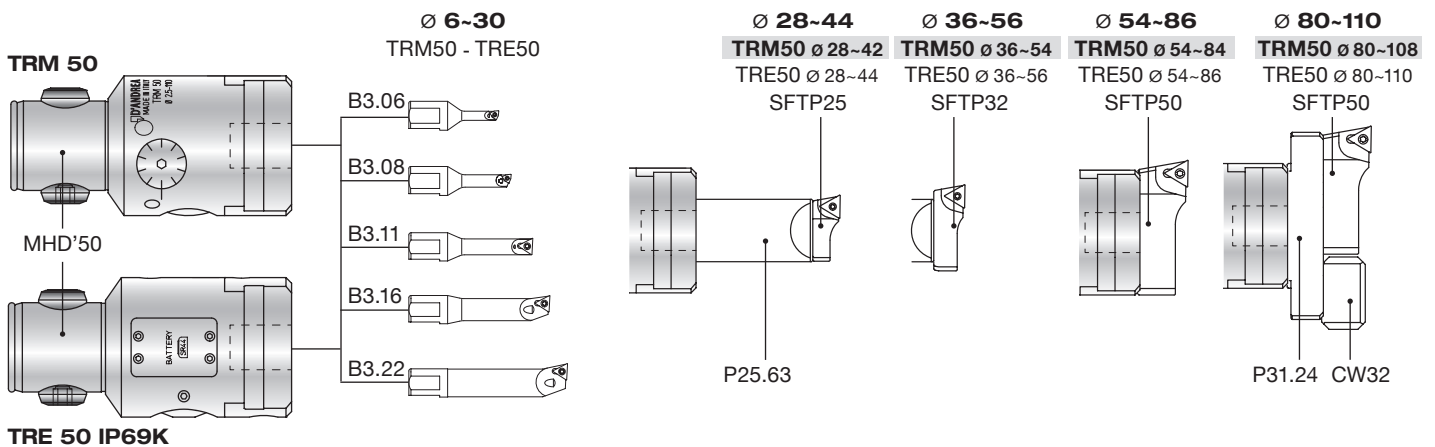
- 1 TRE 50** 1 SFTP 25
- 1 B3.06 1 SFTP 32
- 1 B3.08 1 SFTP 50
- 1 B3.11 1 P 25.63
- 1 B3.16 1 PS 31.24
- 1 B3.22 1 CW 32
- 5 TPGX 090202L DC100
- 1 TPGX 110302L DC100
- 2 WCGT 020102L DC10

REF.	CODE	kg
KIT K01 TRM 50	655005010501	3.1

REF.	CODE	kg
KIT K01 TRE 50 IP69K	655200500502	3.1

### KIT K01 TRM 50 - TRE 50 IP69K

#### Working Range



REF.	CODE	TORX T	kg
<b>B1.02</b>	572010502001		0.02
<b>B1.04</b>	572010504001		0.02
<b>B3.06</b>	572010506001	WCGT0201.. TS 21 06	0.035
<b>B3.08</b>	572010508001	WCGT0201.. TS 211 06	0.4
<b>B3.10</b>	572010510001	TPGX0902.. CS 250 T 08	0.05
<b>B3.11</b>	572010511001	TPGX0902.. CS 250 T 08	0.055
<b>B3.12</b>	572010512001	TPGX0902.. CS 250 T 08	0.06
<b>B3.14</b>	572010514001	TPGX0902.. CS 250 T 08	0.07
<b>B3.16</b>	572010516001	TPGX0902.. CS 250 T 08	0.07
<b>B3.18</b>	572010518001	TPGX0902.. CS 250 T 08	0.1
<b>B3.22</b>	572010522001	TPGX0902.. CS 250 T 08	0.1

REF.	CODE	TORX T	kg
<b>B5.06</b>	572010506105	WCGT0201.. TS 21 06	0.075
<b>B5.08</b>	572010508105	WCGT0201.. TS 211 06	0.09
<b>B5.10</b>	572010510105	TPGX0902.. CS 250 T 08	0.1
<b>B5.12</b>	572010512105	TPGX0902.. CS 250 T 08	0.1
<b>B5.14</b>	572010514105	TPGX0902.. CS 250 T 08	0.2
<b>B5.16</b>	572010516105	TPGX0902.. CS 250 T 08	0.3
<b>B8.06</b>	572010506108	WCGT0201.. TS 21 06	0.065
<b>B8.08</b>	572010508108	WCGT0201.. TS 211 06	0.08
<b>B8.10</b>	572010510108	TPGX0902.. CS 250 T 08	0.1
<b>B8.12</b>	572010512108	TPGX0902.. CS 250 T 08	0.2
<b>B8.14</b>	572010514108	TPGX0902.. CS 250 T 08	0.2
<b>B8.16</b>	572010516108	TPGX0902.. CS 250 T 08	0.3

REF.	CODE	TORX T	kg
<b>SFTP25</b>	470500525001	TPGX0902.. CS 250T 08	0.01
<b>SFTP32</b>	470500532001	TPGX0902.. CS 250T 08	0.02
<b>SFTP50</b>	470500550001	TPGX1103.. CS300890T 08	0.08
<b>SFTP51</b>	470500550003	TCMT16T3.. TS 4 15	0.09

REF.	CODE	TORX T	kg
<b>SFCC25</b>	470500525002	CCGT0602.. TS 25 08	0.01
<b>SFCC32</b>	470500532002	CCGT0602.. TS 25 08	0.02
<b>SFCC50</b>	470500550002	CCGT09T3.. TS 4 15	0.08
<b>SFCC51</b>	470500550004	CCMT1204.. TS 5 25	0.09

• For back-facing machining see p.26

## TRM 50/63 - TRM 63/63

Ø 2.5 ~ 125



## TRM 50/80 - TRM 80/80

Ø 2.5 ~ 220



2 µm

**TRM 50/63**  
Ø 2.5-125

**TRM 63/63**  
Ø 2.5-125

**TRM 50/80**  
Ø 2.5-220

**TRM 80/80**  
Ø 2.5-220

Tools	Vibration-damping	Carbide
RDC D08.16	B5.06	B1.02 Ø2,5-4    B1.04 Ø4-6
B3.06	B5.08	B8.06    Ø6-8
B3.08	B5.10	B8.08    Ø8-10
B3.10	B5.12	B8.10    Ø10-13
B3.11	B5.14	B8.12    Ø12-14
B3.12	B5.16	B8.14    Ø14-16
B3.14	B5.18	B8.16    Ø16-18
B3.16	B5.20	
B3.18		
B3.22		

REF.	CODE	kg
TRM 50/63	455005000631	1.1
TRM 63/63	455006300631	1.5
TRM 50/80	455005000801	2
TRM 80/80	455008000801	2.5
D08.16	200560116082	0.02
P20.30	431030160300	0.2
P02.30	431030250400	0.3
P03.30	431030250700	0.4
P04.30	431030251150	0.7
PS 11.30	433030260750	0.4
PS 12.30	433030260950	0.5
PS 13.30	433030261400	0.7

REF.	CODE	kg
TRM63	Ø 77-100	
TRM63 - TRM80	Ø 95-125 - Ø 95-140	
TRM80	Ø 140-220	

## KIT K01 TRM 50/63 - 63/63

Ø 6 ~ 125



### 1 TRM 50/63 - 63/63

- 1 P20.30      1 B3.11
- 1 PS11.30    1 B3.16
- 1 P02.30      1 B3.22
- 1 P03.30      1 SFTP25
- 1 B3.06       1 SFTP32
- 1 B3.08       1 SFTP50

- 5 TPGX 090202L DC100
- 1 TPGX 110302L DC100
- 2 WCGT 020102L DC 10

REF.	CODE	kg	
KIT K01 TRM50/63	655005010632	3.9	
KIT K01 TRM63/63	655006310632	4.2	

## KIT K01 TRM 50/80 - 80/80

Ø 6 ~ 220



### 1 TRM 50/80 - 80/80

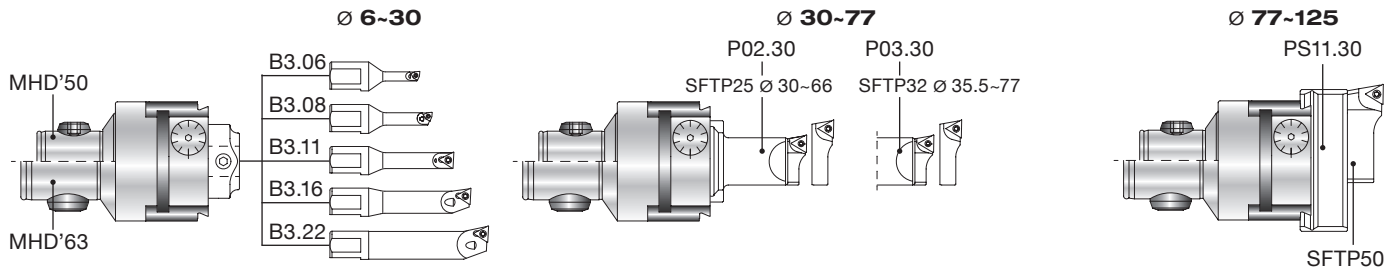
- 1 P20.30      1 B3.08
- 1 PS12.30    1 B3.11
- 1 PS13.30    1 B3.16
- 1 P02.30      1 B3.22
- 1 P03.30      1 SFTP25
- 1 P04.30      1 SFTP32
- 1 B3.06       1 SFTP50

- 5 TPGX 090202L DC100
- 1 TPGX 110302L DC100
- 2 WCGT 020102L DC 10

REF.	CODE	kg	
KIT K01 TRM50/80	655005010802	6.2	
KIT K01 TRM80/80	655008010802	6.6	

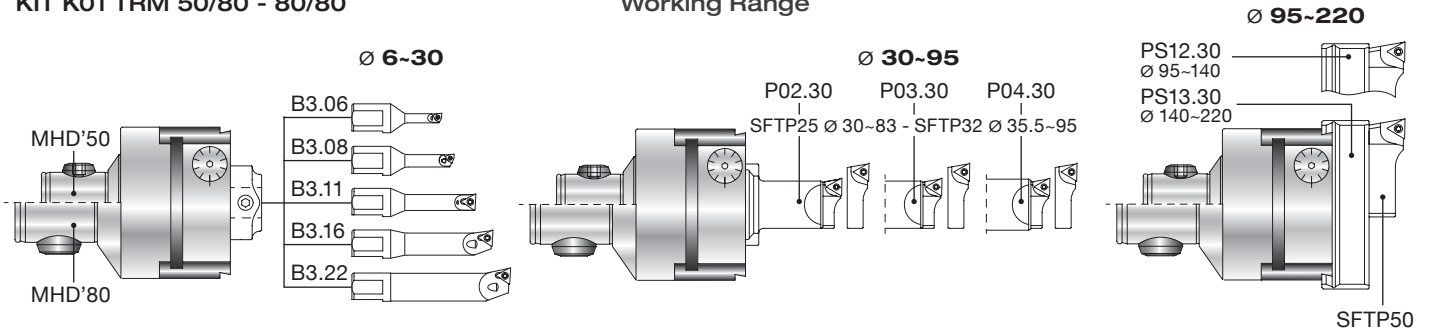
### KIT K01 TRM 50/63 - 63/63

### Working Range



### KIT K01 TRM 50/80 - 80/80

### Working Range



REF.	CODE		TORX T	kg
B1.02	572010502001			0.02
B1.04	572010504001			0.02
B3.06	572010506001	WCGT0201..	TS 21 06	0.035
B3.08	572010508001	WCGT0201..	TS 211 06	0.4
B3.10	572010510001	TPGX0902..	CS 250 T 08	0.05
B3.11	572010511001	TPGX0902..	CS 250 T 08	0.055
B3.12	572010512001	TPGX0902..	CS 250 T 08	0.06
B3.14	572010514001	TPGX0902..	CS 250 T 08	0.07
B3.16	572010516001	TPGX0902..	CS 250 T 08	0.07
B3.18	572010518001	TPGX0902..	CS 250 T 08	0.1
B3.22	572010522001	TPGX0902..	CS 250 T 08	0.1

REF.	CODE		TORX T	kg
B5.06	572010506105	WCGT0201..	TS 21 06	0.075
B5.08	572010508105	WCGT0201..	TS 211 06	0.09
B5.10	572010510105	TPGX0902..	CS 250 T 08	0.1
B5.12	572010512105	TPGX0902..	CS 250 T 08	0.1
B5.14	572010514105	TPGX0902..	CS 250 T 08	0.2
B5.16	572010516105	TPGX0902..	CS 250 T 08	0.3
B8.06	572010506108	WCGT0201..	TS 21 06	0.065
B8.08	572010508108	WCGT0201..	TS 211 06	0.08
B8.10	572010510108	TPGX0902..	CS 250 T 08	0.1
B8.12	572010512108	TPGX0902..	CS 250 T 08	0.2
B8.14	572010514108	TPGX0902..	CS 250 T 08	0.2
B8.16	572010516108	TPGX0902..	CS 250 T 08	0.3

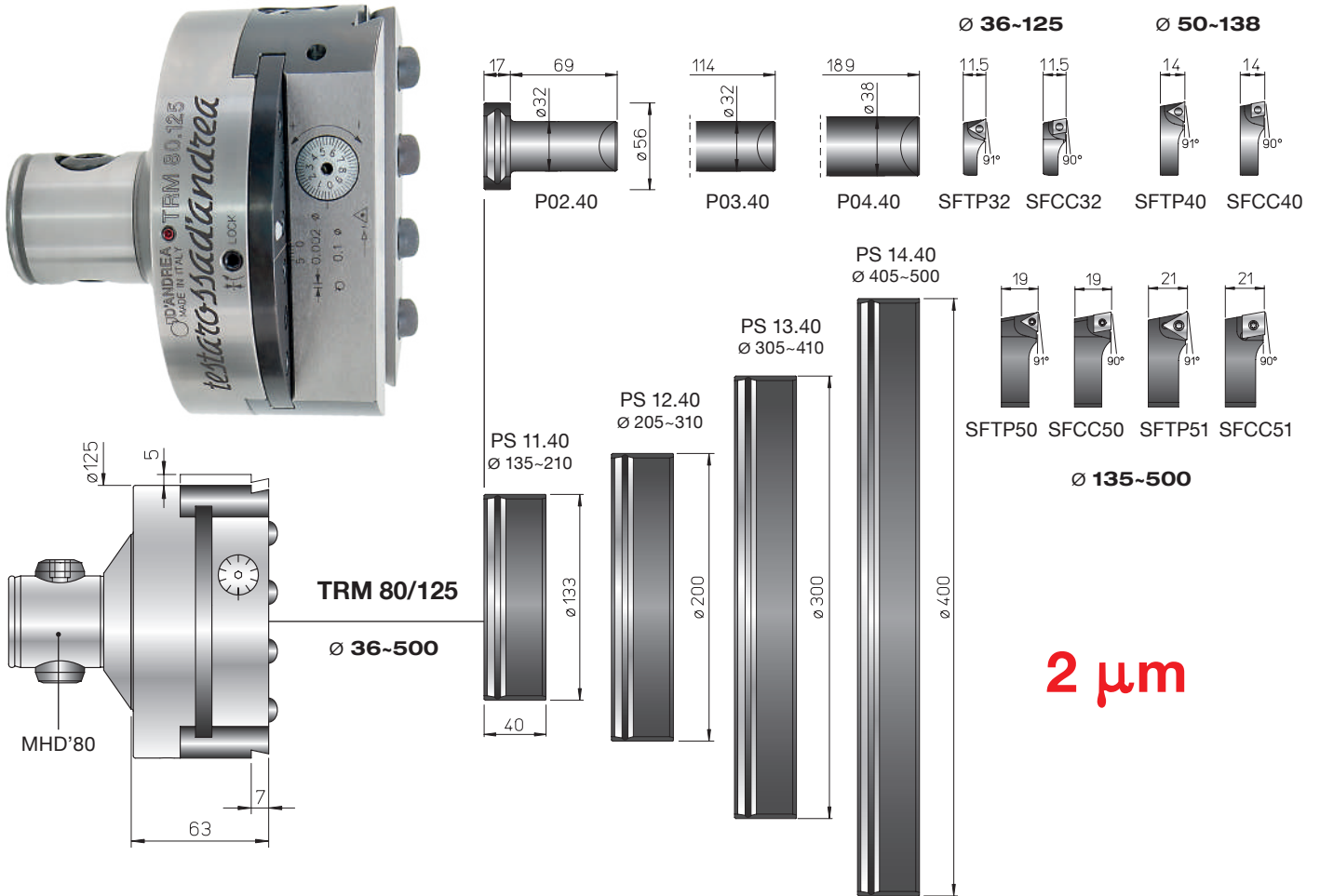
REF.	CODE		TORX T	kg
SFTP25	470500525001	TPGX0902..	CS 250T 08	0.01
SFTP32	470500532001	TPGX0902..	CS 250T 08	0.02
SFTP50	470500550001	TPGX1103..	CS300890T 08	0.08
SFTP51	470500550003	TCMT16T3..	TS 4 15	0.09

REF.	CODE		TORX T	kg
SFCC25	470500525002	CCGT0602..	TS 25 08	0.01
SFCC32	470500532002	CCGT0602..	TS 25 08	0.02
SFCC50	470500550002	CCGT09T3..	TS 4 15	0.08
SFCC51	470500550004	CCMT1204..	TS 5 25	0.09

• For back-facing machining see p.26



## TRM 80/125 Ø 36 ~ 500



REF.	CODE	kg
TRM 80/125	455008001251	5.5
P02.40	431040320700	0.7
P03.40	431040321150	1
P04.40	431040321900	2

REF.	CODE	kg
PS 11.40	433040351500	1.5
PS 12.40	433040352300	2.4
PS 13.40	433040353300	3.5
PS 14.40	433040354000	4.6

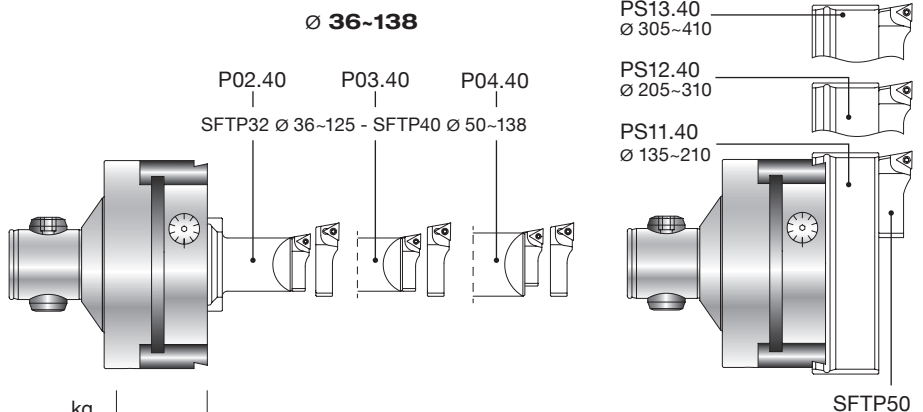
## KIT K03 Ø 36 ~ 410

Working Range

TRM 80/125 EXCLUDED



- 1 PS11.40
- 1 PS12.40
- 1 PS13.40
- 1 PS14.40
- 1 P02.40
- 1 P03.40
- 1 P04.40
- 1 SFTP32
- 1 SFTP40
- 1 SFTP50



REF.	CODE	kg
KIT K03 TRM 80/125	655012500030	11.2

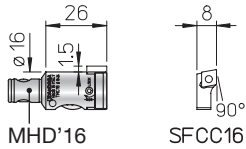
REF.	CODE	△	□	TORX T	kg
SFTP32	470500532001	TPGX 0902..	CS 250T	08 0.02	
SFTP40	470500540001	TPGX 1103..	CS300890T	08 0.04	
SFTP50	470500550001	TPGX 1103..	CS300890T	08 0.08	
SFTP51	470500550003	TCMT 16T3..	TS 4	15 0.09	

REF.	CODE	⊗	□	TORX T	kg
SFCC32	470500532002	CCGT 0602..	TS 25	08 0.02	
SFCC40	470500540002	CCGT 09T3..	TS 4	15 0.04	
SFCC50	470500550002	CCGT 09T3..	TS 4	15 0.08	
SFCC51	470500550004	CCMT 1204..	TS 5	25 0.09	

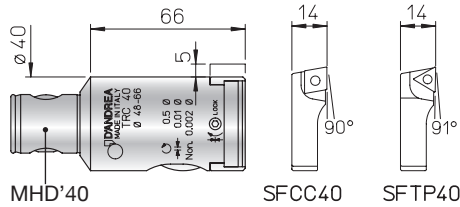
## TRC 16 ~ 80 Ø 18 ~ 132



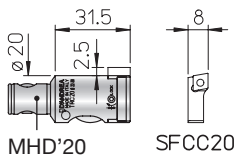
### TRC 16 Ø 18 ~ 24



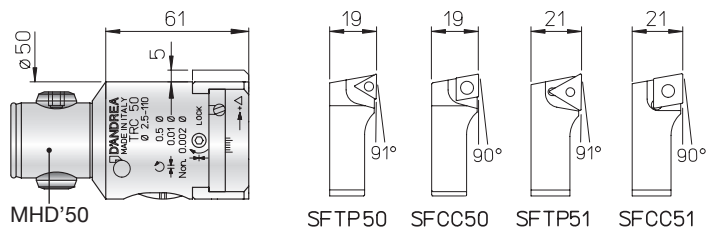
### TRC 40 Ø 48 ~ 66



### TRC 20 Ø 22 ~ 30

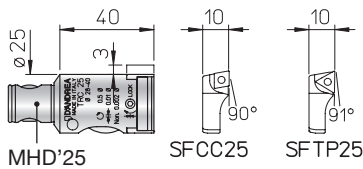


### TRC 50 Ø 54 ~ 86

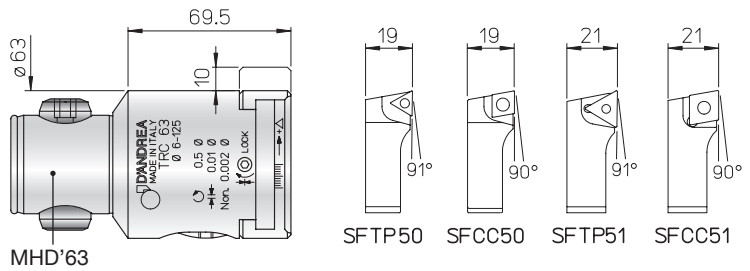


THE TRC50 USES ALL THE TOOLS SUPPLIED WITH TRM50 (P.20-21)

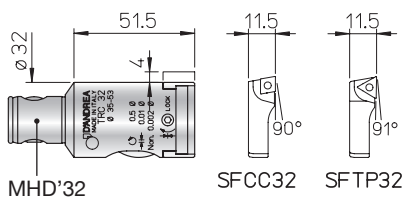
### TRC 25 Ø 28 ~ 40



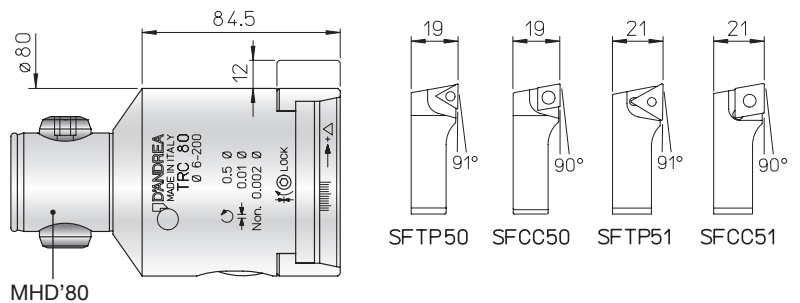
### TRC 63 Ø 72 ~ 110



### TRC 32 Ø 35.5 ~ 53.5



### TRC 80 Ø 88 ~ 132



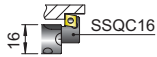
REF.	CODE	kg	
TRC 16	455011600341	0.05	
TRC 20	455012000401	0.1	
TRC 25	455012500501	0.2	
TRC 32	455013200631	0.35	
TRC 40	455014000801	0.7	
TRC 50	455015000801	1	
TRC 63	455016301001	2	
TRC 80	455018001201	3.8	

REF.	CODE		TORX T	kg	
SFCC16	470500516002	CCGT 0602..	TS 25	08	0.003
SFCC20	470500520002	CCGT 0602..	TS 25	08	0.005
SFCC25	470500525002	CCGT 0602..	TS 25	08	0.01
SFCC32	470500532002	CCGT 0602..	TS 25	08	0.02
SFCC40	470500540002	CCGT 09T3..	TS 4	15	0.04
SFCC50	470500550002	CCGT 09T3..	TS 4	15	0.08
SFCC51	470500550004	CCMT 1204..	TS 5	25	0.09
SFTP25	470500525001	TPGX 0902..	CS 250T	08	0.01
SFTP32	470500532001	TPGX 0902..	CS 250T	08	0.02
SFTP40	470500540001	TPGX 1103..	CS300890T	08	0.04
SFTP50	470500550001	TPGX 1103..	CS300890T	08	0.08
SFTP51	470500550003	TCMT 16T3..	TS 4	15	0.09

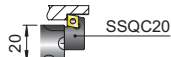
• For back-facing machining see p.26

## MHD' TS / PSC TS

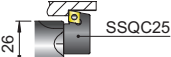
**TS 16/16**  
20-24



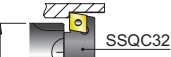
**TS 20/20**  
23.5-30



**TS 25/25**  
29.5-40



**TS 32/32**  
39-52



**TS 40/40**  
51-70



**TS 50/50**  
69-92

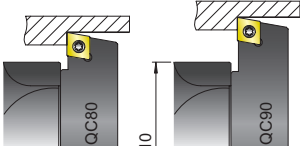


**TS 50/63**  
**TS 63/63**  
91-122



**BHT**  
**250-500**  
272-659

**TS 80/80**  
SSQC80  
121-162

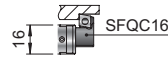


**TS 80/90**  
SSQC90  
161-202



## TRM - TRC

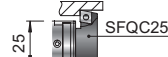
**TRM 16** 20-25  
**TRC 16** 20-26



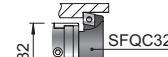
**TRM 20** 24.5-32  
**TRC 20** 24.5-33



**TRM 25** 31.5-40.5  
**TRC 25** 31.5-42.5



**TRM 32** 38.5-51.5  
**TRC 32** 38.5-53.5



**TRM 40** 50.5-65  
**TRC 40** 50.5-67

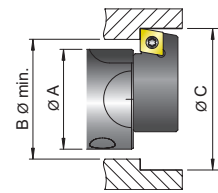


**TRM 50** 56-111  
**TRC 50** 56-113.5

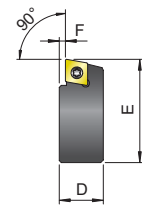


## CALCULATION FORMULA FOR MINIMUM ENTERING Ø

$$B \varnothing \text{ min} = (\varnothing C + \varnothing A + 1) : 2$$

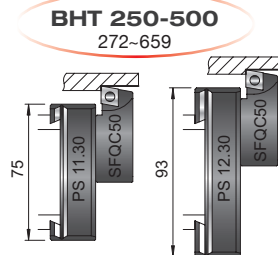


## CARTRIDGE DIMENSIONS

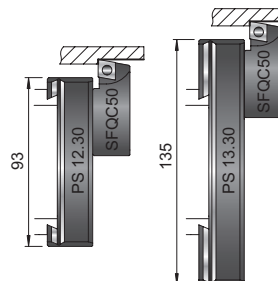


## TRM

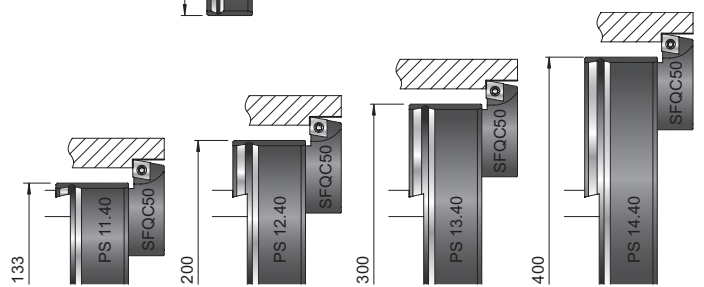
**TRM 50/63**  
**TRM 63/63**  
PS 11.30  
82-102  
PS 12.30  
100-127



**TRM 50/80**  
**TRM 80/80**  
PS 12.30  
100-142  
PS 13.30  
142-162

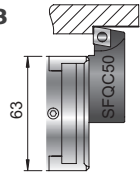


**TRM 80/125**  
PS 11.40  
140-212  
PS 12.40  
210-312  
PS 13.40  
310-412  
PS 14.40  
410-502

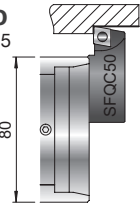


## TRC

**TRC 63**  
72.5-115



**TRC 80**  
88.5-135.5

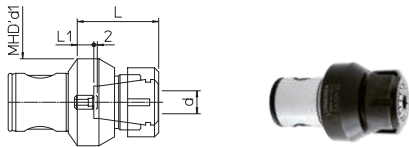


REF.	CODE	D	E	F	CCMT	TS	TORX T
SSQC 16	470500516261	10	16	2	0602..	25	08
SSQC 20	470500520261	11	19.5	1.5	0602..	25	08
SSQC 25	470500525261	14.5	24	2.5	0602..	25	08
SSQC 33	470500533261	17	32	3	09T3..	4	15
SSQC 41	470500541261	21	42	3.5	1204..	5	25
SSQC 50	470500550261	24.5	57	3.5	1204..	5	25
SSQC 63	470500563261	28.5	76	3.5	1204..	5	25
SSQC 80	470500580261	31.5	101	3.5	1204..	5	25
SSQC 90	470500590261	31.5	122	3.5	1204..	5	25

REF.	CODE	D	E	F	CCMT	TS	TORX T
SFQC 16	470500516062	10	18	2	0602..	25	08
SFQC 20	470500520062	10.5	22.5	2	0602..	25	08
SFQC 25	470500525062	12	28.5	2.5	0602..	25	08
SFQC 32	470500532062	13.5	35.5	2.5	0602..	25	08
SFQC 40	470500540062	16.5	46	3	09T3..	4	15
SFQC 50	470500550062	20.5	53	3	09T3..	4	15

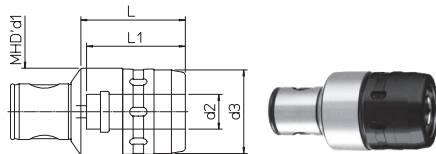
## PE COLLETS CHUCKING TOOLS

Supplied without collets and clamping wrenches



REF.	CODE	MHD' d1	d	L	L1	kg			N-m
PE 20 / ER16M	655702000160	20	0.5-10	32	1	0.06	ER-16M	E16M	40
PE 32 / ER25M	655703200250	32	1-16	42	1.5	0.25	ER-25M	E25M	160
PE 40 / ER25	655704000250	40	1-16	45	5	0.4	UM/ER25	E25	200
PE 50 / ER25	655705000250	50	1-16	48	7	0.7	UM/ER25	E25	200
PE 50 / ER32	655705000320	50	2-20	55	8	1	UM/ER32	E32	220
PE 63 / ER32	655706300320	63	2-20	59	12	1.3	UM/ER32	E32	220

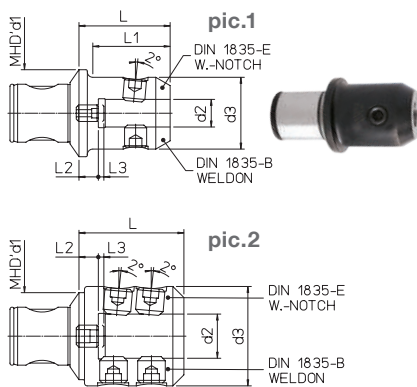
## FORCE MILLING POWER CHUCK



Supplied without collets and clamping wrenches

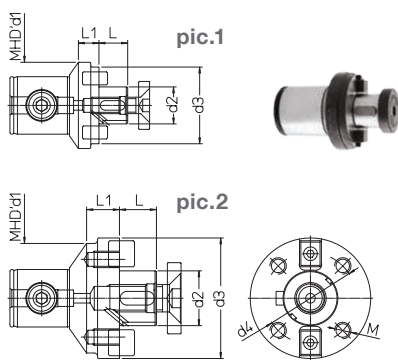
REF.	CODE	MHD' d1	d2	d3	L	L1	kg
FORCE 50/20	656305000200	50	20	48	60	60	1
FORCE 63/32	656306300320	63	32	66	80	80	2

## AW WELDON WHISTLE NOTCH CHUCKING TOOLS



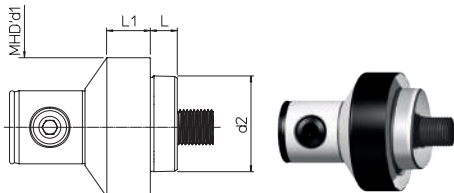
REF.	CODE	MHD' d1	d2 <sup>H5</sup>	d3	L	L1	L2	L3	kg	pic.
AW 50/6	655805000060	50	6	25	44	32.5	7	2	0.5	1
AW 50/8	655805000080	50	8	28	44	33	7	2	0.5	1
AW 50/10	655805000100	50	10	35	52	42	11	3	0.7	1
AW 50/12	655805000120	50	12	42	57	48	11	3	0.8	1
AW 50/14	655805000140	50	14	42	57	48	11	3	0.8	1
AW 50/16	655805000160	50	16	48	67	61	17	4	1.1	1
AW 50/20	655805000200	50	20	51	67		16	4	1.2	1
AW 50/25	655805000250	50	25	63	80		22	4	1.8	2
AW 63/16	655806300160	63	16	48	64	53	14	4	1.4	1
AW 63/20	655806300200	63	20	52	66	56	14	4	1.5	1
AW 63/25	655806300250	63	25	64	74		16	4	2.1	2
AW 63/32	655806300320	63	32	72	76		14	4	2.5	2
AW 80/40	655808000400	80	40	80	83		12	4	3.2	2

## PF DISC AND FACING CUTTER HOLDERS



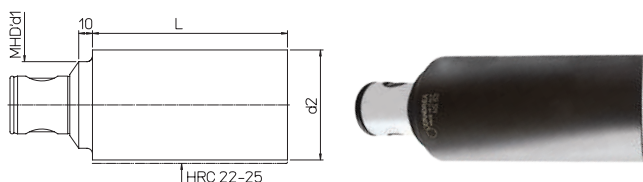
REF.	CODE	MHD' d1	d2	d3	d4	M	L	L1	kg	pic.
PF 40/16	655904020165	40	16	32			17	15	0.3	1
PF 40/22	655904020225	40	22	40			19	13	0.4	1
PF 50/16	655905000160	50	16	32			17	15	0.5	1
PF 50/22	655905000220	50	22	40			19	15	0.5	1
PF 50/27	655905000270	50	27	50			21	15	0.6	1
PF 50/32	655905000320	50	32	60			24	15	0.7	1
PF 63/22	655906300220	63	22	60			19	15	0.9	1
PF 63/27	655906300270	63	27	60			21	15	1.1	1
PF 63/32	655906300320	63	32	63			24	15	1.2	1
PF 80/32	655908000320	80	32	80			24	24	1.7	1
PF 80/40	655908000400	80	40	84	66.7	M12	27	24	1.9	2
PF 80/50	655908000500	80	50	90			30	24	2.0	2
PF 80/60	655908000600	80	60	128.5	101.6	M16	40	31.5	3.5	2

## MHD' 80 - HT 8 CHUCKING TOOLS MHD' 80 - HT 8



REF.	CODE	MHD' d1	d2	L	L1	kg
MHD'80-HT8	655108000080	80	HT8	15.5	25	2

## NS SEMIFINISHED CHUCK HOLDERS



ON REQUEST

REF.	CODE	MHD' d1	d2	L	kg
NS 50	657205001600	50	63	160	4.2
NS 63	657206302000	63	80	200	8.7
NS 80	657208002500	80	100	250	16