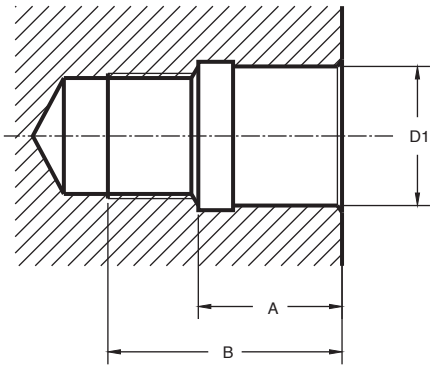
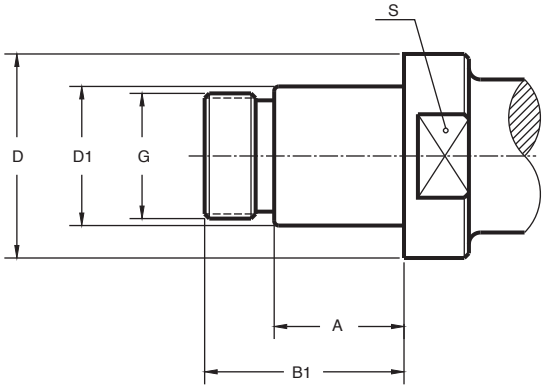
LAIP MODULAR TOOLING

Interchangeable with C.O.

Make sure before assembling the modular system to clean and grease properly every single piece.





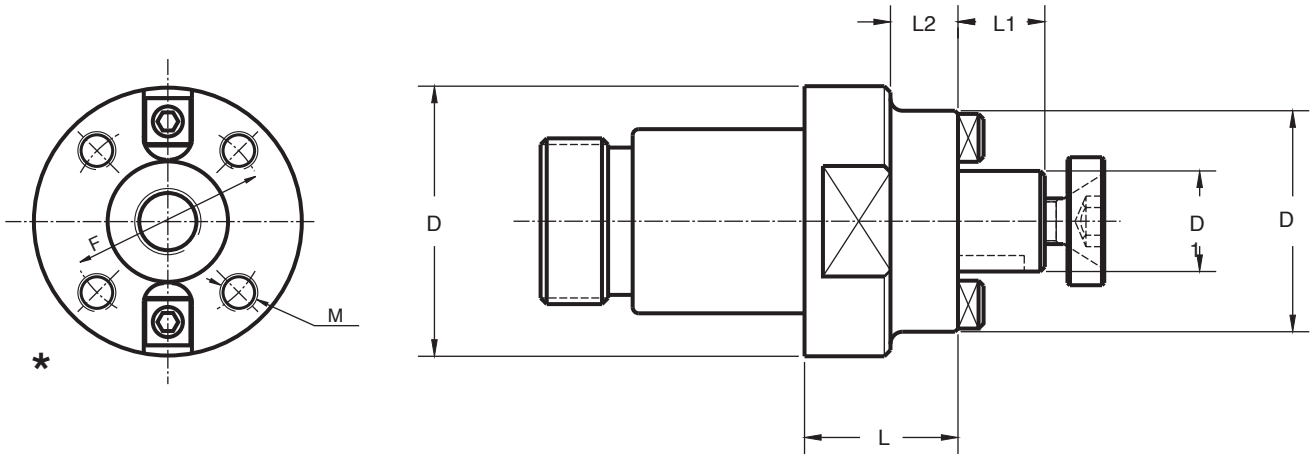
D	D_1	G	A	B	A_1	B_1	S
14,5	10,5	M.10 x 1,5	9	17	7,5	15,5	13
18,5	13	M.12 x 1,75	14	24	12,5	21	17
23	16	M.14 x 2	17	28	15	25	25
29	20	M.16 x 2	21	34	19	31	24
36	26	M.20 x 2,5	27	42	24	39	32
46	30	M.27 x 3	30	46	28	43	41
63	46	M.42 x 4,5	48	70	41	64	55
90	46	M.42 x 4,5	48	70	41	64	75

Material: Case-hardening alloy steel.
Execution: Case-hardened and tempered. Minimum strength in core 880 N/mm^2. Surface hardness Rc 57 ÷ 60. Ground thread.

001 54 03 05 .. ..

SHELL END MILL ARBORS

For milling cutters with longitudinal or tenon drive DIN 138

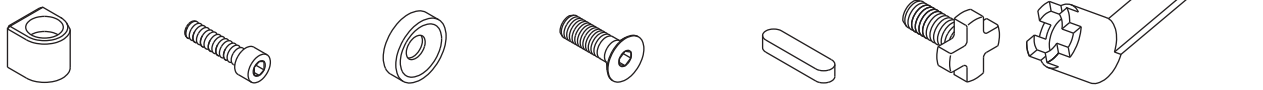


Maximum circular deviation between threaded shank and D_1 ≤ 0,008

D	D_1 h6	L	L_1	M	L_2	F	D_2	COD.	OPTIONAL
36	16	25	17	–	18	–	39	**001 54 05 05 30**	020 99 01 01 05
46	16	25	17	–	6	–	39	**001 54 05 06 30**	020 99 01 01 06
46	22	25	19	–	6	–	49	**001 54 05 06 40**	020 99 01 01 06
46	27	25	21	–	20	–	61	**001 54 05 06 50**	020 99 01 01 06
46	32	25	24	–	18	–	70	**001 54 05 06 60**	020 99 01 01 06
63	16	30	17	–	10	–	39	**001 54 05 07 30**	020 99 01 01 07
63	22	30	19	–	10	–	49	**001 54 05 07 40**	020 99 01 01 07
63	27	30	21	–	8	–	61	**001 54 05 07 50**	020 99 01 01 07
63	32	30	24	–	26	–	70	**001 54 05 07 60**	020 99 01 01 07
*63	40	30	27	M-12	22	66,7	89	**001 54 03 07 70**	020 99 01 01 08
90	32	30	24	–	10	–	70	**001 54 05 08 60**	020 99 01 01 08
*90	40	30	27	M-12	10	66,7	98	**001 54 03 08 70**	020 99 01 01 08
90	50	30	30	–	–	–	–	**001 54 05 08 80**	020 99 01 01 08

* With additional 4 tapped holes for front clamping according to DIN 2079

Accessories, see pages 267-293

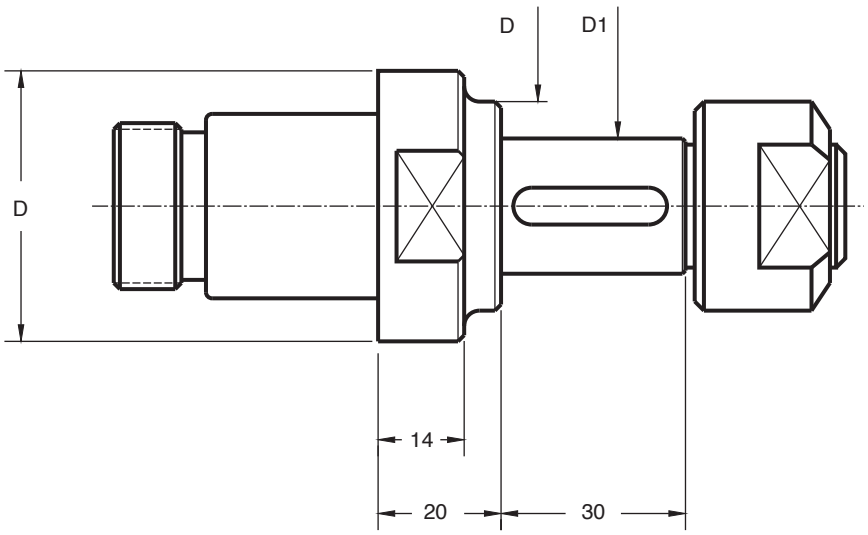


D_1					OPTIONALS		
16	303 05 05 00 30	301 01 00 03 15	001 99 01 22 30	001 99 01 12 30	001 99 03 02 30	001 99 01 01 30	001 99 04 01 30
22	303 05 05 00 40	301 01 01 04 12	001 99 01 22 40	001 99 01 12 40	001 99 03 02 40	001 99 01 01 40	001 99 04 01 40
27	303 05 05 00 50	301 01 01 05 12	001 99 01 22 50	001 99 01 12 50	001 99 03 02 50	001 99 01 01 50	001 99 04 01 50
32	303 05 05 00 60	301 01 01 05 16	001 99 01 22 60	001 99 01 12 60	001 99 03 02 60	001 99 01 01 60	001 99 04 01 60
40	303 05 05 00 70	301 01 01 06 16	001 99 01 22 70	001 99 01 12 70	001 99 03 02 70	001 99 01 01 70	001 99 04 01 70
50	303 05 05 00 80	301 01 01 06 20	001 99 01 22 80	001 99 01 12 80	001 99 03 02 80	001 99 01 01 80	001 99 04 01 80

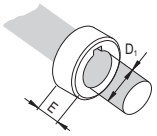
001 54 25 .. ..

STUB ARBORS

For plain mills with longitudinal keyway DIN 138



SPACERS



D_1	E	COD.
16	3	001 99 09 30 03
	6	001 99 09 30 04
	20	001 99 09 30 06
22	3	001 99 09 40 03
	6	001 99 09 40 04
	20	001 99 09 40 06
27	3	001 99 09 50 03
	6	001 99 09 50 04
	20	001 99 09 50 06
32	3	001 99 09 60 03
	6	001 99 09 60 04
	20	001 99 09 60 06

Maximum circular deviation between threaded shank and $D_1 \leq 0{,}008$

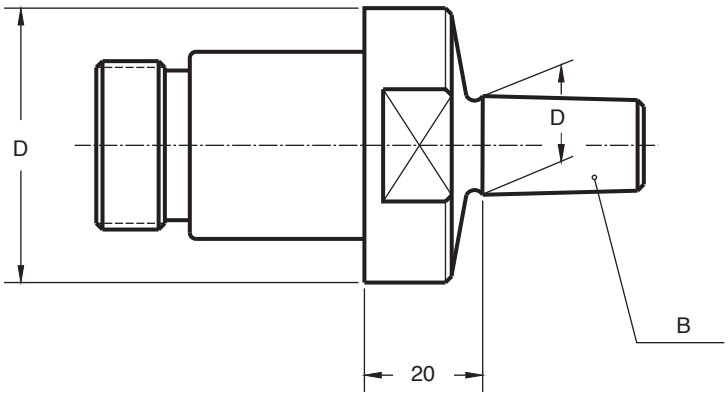
D	D_1	D_2	COD.			OPTIONAL
46	22	34	**001 54 25 06 40** ⚠	001 99 07 01 40	001 99 03 02 40	020 99 01 01 06
46	27	40	**001 54 25 06 50** ⚠	001 99 07 01 50	001 99 03 02 50	020 99 01 01 06
46	32	46	**001 54 25 06 60** ⚠	001 99 07 01 60	303 01 08 07 25	020 99 01 01 06

⚠ Product outside of our present production program. Price subject to availability.

001 54 50 .. ..

DRILL CHUCK ARBORS

For DIN 238 or JACOBS



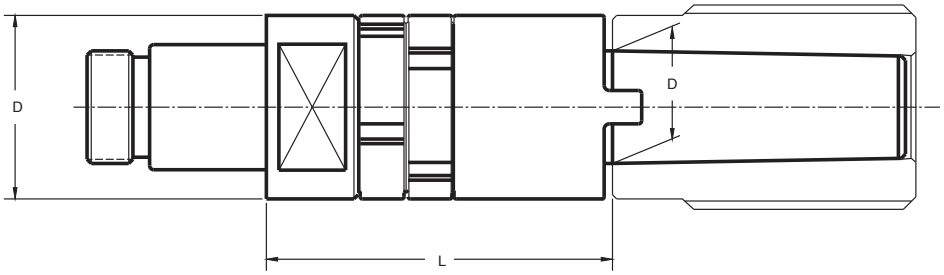
Maximum circular deviation between threaded shank and $D_1 \leq 0{,}008$

D	B-J	D_1	COD.	OPTIONAL
46	B.12	12,06	**001 54 50 06 01**	020 99 01 01 06
46	B.16	15,73	**001 54 50 06 02**	020 99 01 01 06
46	B.18	17,78	**001 54 50 06 03**	020 99 01 01 06
46	J.3	20,59	**001 54 50 06 15** ⚠	020 99 01 01 06

001 54 51 .. ..

ARBOR FOR REAMERS

ACC. TO DIN 217



Maximum circular deviation between threaded shank and D_1 ≤ 0,008

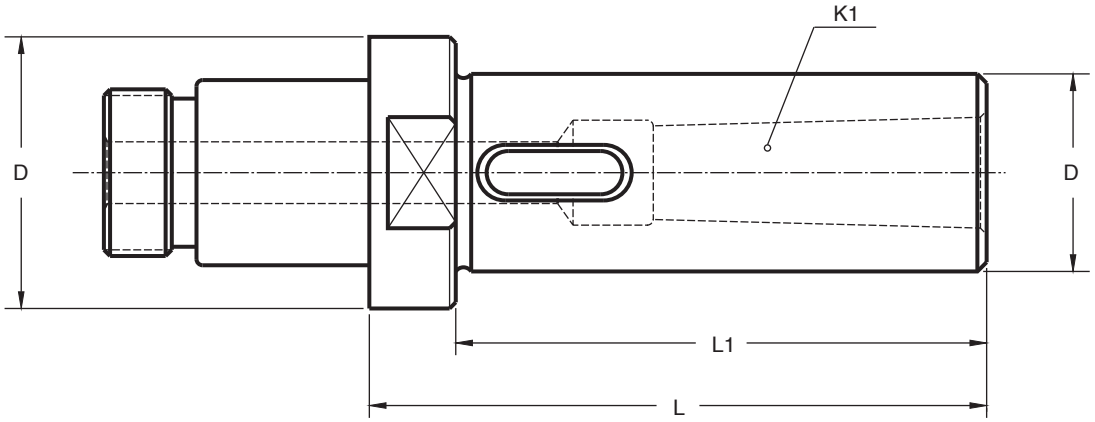
D	D_1	L	COD.				OPTIONAL
18,5	10	40	**001 54 51 02 10** ⚠	001 99 12 01 10	001 99 11 01 10	001 99 13 01 10	020 99 01 01 02
23	13	45	**001 54 51 03 20** ⚠	001 99 12 01 10	001 99 11 01 20	001 99 13 01 20	020 99 01 01 03
29	16	54	**001 54 51 04 30** ⚠	001 99 12 01 30	001 99 11 01 30	001 99 13 01 30	020 99 01 01 04
36	19	62	**001 54 51 05 99** ⚠	001 99 12 01 30	001 99 11 01 99	001 99 13 01 99	020 99 01 01 05
36	22	66	**001 54 51 05 40** ⚠	001 99 12 01 40	001 99 11 01 40	001 99 13 01 40	020 99 01 01 05
46	22	66	**001 54 51 06 40** ⚠	001 99 12 01 40	001 99 11 01 40	001 99 13 01 40	020 99 01 01 06
63	40	108	**001 54 51 07 70** ⚠	001 99 12 01 60	001 99 11 01 70	001 99 13 01 70	020 99 01 01 07
63	50	115	**001 54 51 07 80** ⚠	001 99 12 01 80	001 99 11 01 80	001 99 13 01 80	020 99 01 01 07

⚠ Product outside of our present production program. Price subject to availability.

003 54 12 .. ..

REDUCING ADAPTERS

For tanged Morse taper tools DIN 228-B or Morse taper tools with thread DIN 228-A



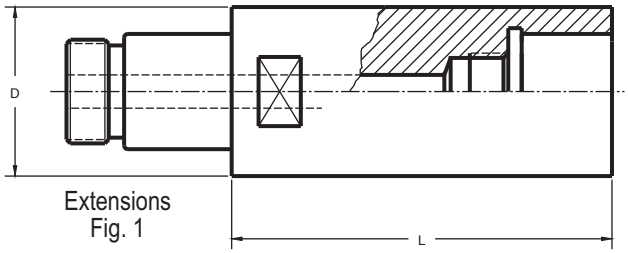
Maximum circular deviation between threaded shank and K_1 ≤ 0,008

D	K_1	L	L_1	D_1	COD.	(*)	OPTIONAL
23	1	75	–	23	**003 54 12 03 20**	–	020 99 01 01 03
29	2	88	–	29	**003 54 12 04 30**	–	020 99 01 01 04
36	1	83	72	25	**003 54 12 05 20**	301 01 01 06 80	020 99 01 01 05
36	2	97	86	32	**003 54 12 05 30**		020 99 01 01 05
46	1	90	76	25	**003 54 12 06 20**	301 01 01 06 60	020 99 01 01 06
46	2	100	86	32	**003 54 12 06 30**	301 01 01 10 10	020 99 01 01 06
46	3	122	108	40	**003 54 12 06 40**	301 01 01 12 11	020 99 01 01 06
63	3	128	108	40	**003 54 12 07 40**	301 01 01 12 65	020 99 01 01 07
63	4	155	135	48	**003 54 12 07 50**	301 01 01 16 15	020 99 01 01 07
63	5	186	166	60	**003 54 12 07 60**	301 01 01 20 16	020 99 01 01 07
90	5	200	175	63	**003 54 12 08 60**	301 01 01 20 17	020 99 01 01 08

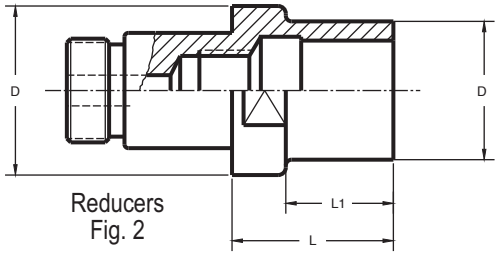
(*) Pull stud for drawbar Morse taper

003 54 54 .. ..

MODULAR EXTENSIONS AND REDUCERS



Extensions
Fig. 1



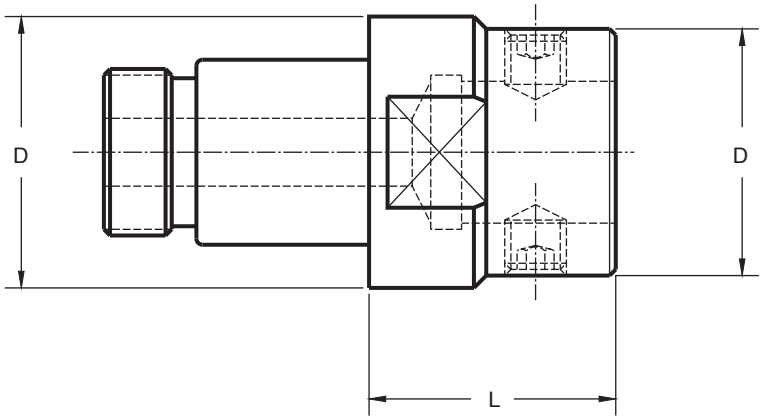
Reducers
Fig. 2

Figure	D	L	COD.	OPTIONAL
1	14,5	29	**003 54 54 01 01**	020 99 01 01 01
1	18,5	37	**003 54 54 02 02**	020 99 01 01 02
1	23	46	**003 54 54 03 03**	020 99 01 01 03
1	29	58	**003 54 54 04 04**	020 99 01 01 04
1	36	72	**003 54 54 05 05**	020 99 01 01 05
1	46	60	**003 54 54 06 16**	020 99 01 01 06
1	46	92	**003 54 54 06 06**	020 99 01 01 06
1	63	86	**003 54 54 07 17**	020 99 01 01 07
1	63	126	**003 54 54 07 07**	020 99 01 01 07
1	90	90	**003 54 54 08 18**	020 99 01 01 08
1	90	180	**003 54 54 08 08**	020 99 01 01 08

Figure	D	D_1	L	L_1	COD.	OPTIONAL
2	18,5	14,5	35	29	**003 54 54 02 01**	020 99 01 01 02
2	23	14,5	36	29	**003 54 54 03 01**	020 99 01 01 03
2	23	18,5	44	37	**003 54 54 03 02**	020 99 01 01 03
2	29	14,5	38	29	**003 54 54 04 01**	020 99 01 01 04
2	29	18,5	46	37	**003 54 54 04 02**	020 99 01 01 04
2	29	23	55	46	**003 54 54 04 03**	020 99 01 01 04
2	36	14,5	40	29	**003 54 54 05 01**	020 99 01 01 05
2	36	18,5	48	37	**003 54 54 05 02**	020 99 01 01 05
2	36	23	57	46	**003 54 54 05 03**	020 99 01 01 05
2	36	29	69	58	**003 54 54 05 04**	020 99 01 01 05
2	46	14,5	43	29	**003 54 54 06 01**	020 99 01 01 06
2	46	18,5	14	–	**003 54 54 06 12**	020 99 01 01 06
2	46	18,5	51	37	**003 54 54 06 02**	020 99 01 01 06
2	46	23	14	–	**003 54 54 06 13**	020 99 01 01 06
2	46	23	60	46	**003 54 54 06 03**	020 99 01 01 06
2	46	29	14	–	**003 54 54 06 14**	020 99 01 01 06
2	46	29	72	58	**003 54 54 06 04**	020 99 01 01 06
2	46	36	34	20	**003 54 54 06 15**	020 99 01 01 06
2	46	36	86	72	**003 54 54 06 05**	020 99 01 01 06
2	63	14,5	49	29	**003 54 54 07 01**	020 99 01 01 07
2	63	18,5	59	37	**003 54 54 07 02**	020 99 01 01 07
2	63	23	66	46	**003 54 54 07 03**	020 99 01 01 07
2	63	29	78	58	**003 54 54 07 04**	020 99 01 01 07
2	63	36	92	72	**003 54 54 07 05**	020 99 01 01 07
2	63	46	20	–	**003 54 54 07 16**	020 99 01 01 07
2	63	46	112	92	**003 54 54 07 06**	020 99 01 01 07
2	90	63	85	56	**003 54 54 08 17**	020 99 01 01 08
2	90	63	155	126	**003 54 54 08 07**	020 99 01 01 08

003 54 9. .. ..

ADAPTERS FROM LAIP MODULAR TOOLING TO OTHERS

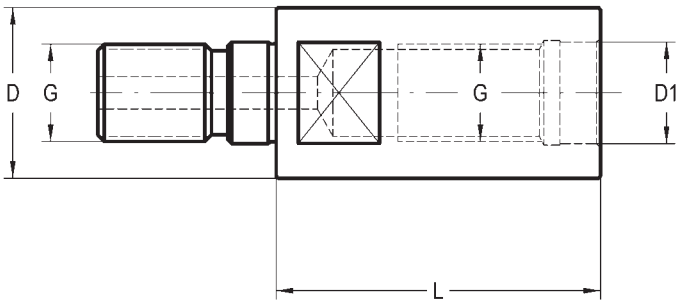


D	D_1	L	MODULAR TOOLING	COD.	OPTIONAL
23	19	20	KAISER	**003 54 91 03 01** ⚠	020 99 01 01 03
29	24	30	KAISER	**003 54 91 04 02** ⚠	020 99 01 01 04
46	39	40	KAISER	**003 54 91 06 04** ⚠	020 99 01 01 06
63	50	60	KAISER	**003 54 91 07 05** ⚠	020 99 01 01 07
90	100	80	PINZBOHR	**003 54 92 08 08** ⚠	020 99 01 01 08
46	50	45	KOMET	**003 54 93 06 04** ⚠	020 99 01 01 06
18,5	16,5	35	CAD	**003 54 96 02 01** ⚠	020 99 01 01 02
23	20	35	CAD	**003 54 96 03 02** ⚠	020 99 01 01 03
29	25	40	CAD	**003 54 96 04 03** ⚠	020 99 01 01 04
46	16,5	20	CAD	**003 54 96 06 01** ⚠	020 99 01 01 06
46	25	20	CAD	**003 54 96 06 03** ⚠	020 99 01 01 06
46	32	25	CAD	**003 54 96 06 04** ⚠	020 99 01 01 06
46	42	50	CAD	**003 54 96 06 05** ⚠	020 99 01 01 06
46	55	75	CAD	**003 54 96 06 06** ⚠	020 99 01 01 06
63	55	30	CAD	**003 54 96 07 06** ⚠	020 99 01 01 07
63	72	80	CAD	**003 54 96 07 07** ⚠	020 99 01 01 07
90	72	80	CAD	**003 54 96 08 07** ⚠	020 99 01 01 08
90	94	105	CAD	**003 54 96 08 08** ⚠	020 99 01 01 08

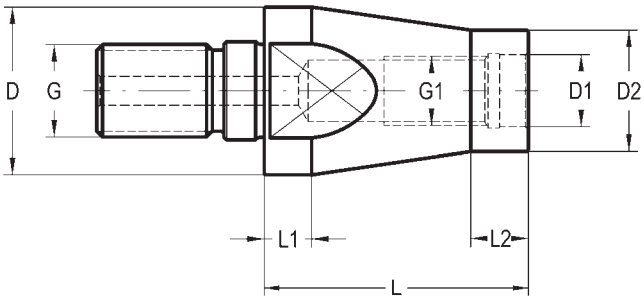
⚠ Product outside of our present production program. Price subject to availability.

003 57 57 .. ..

FRONT CONTACT EXTENSIONS AND REDUCERS FOR SCREW IN-TOOLS



Extensions (Fig. 1)



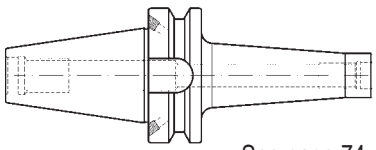
Reducers (Fig. 2)

Delivery: With through coolant channel

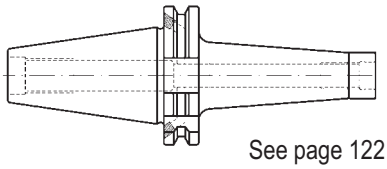
Fig.	G	D	D_1	L	COD.
1	M-6	9,8	6,5	25	**003 57 57 01 01**
1	M-8	12,8	8,5	30	**003 57 57 02 02**
1	M-10	17,8	10,5	35	**003 57 57 03 03**
1	M-12	20,8	12,5	40	**003 57 57 04 04**
1	M-16	28,8	17	45	**003 57 57 05 05**

Fig.	G	G_1	D	D_2	D_1	L	L_1	L_2	COD.
2	M-8	M-6	12,8	9,8	6,5	25	5	10	**003 57 57 02 01**
2	M-10	M-8	17,8	12,8	8,5	30	5	10	**003 57 57 03 02**
2	M-12	M-10	20,8	17,8	10,5	45	5	10	**003 57 57 04 03**
2	M-16	M-12	28,8	20,8	12,5	40	5	10	**003 57 57 05 04**

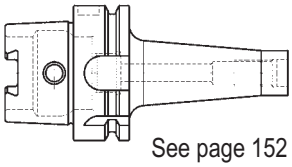
Front contact adapters for screw in-tools



See page 74

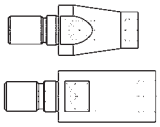


See page 122



See page 152

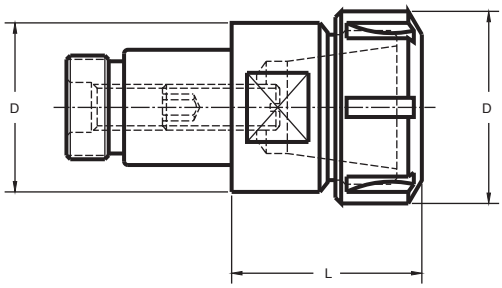
See page 219

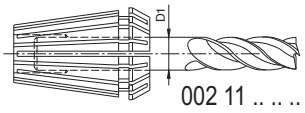


004 54 06 .. ..

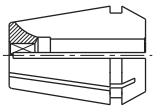
COLLET CHUCKS ER TYPE (DIN 6499)

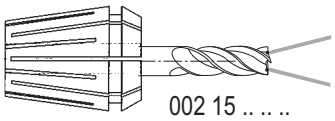
For tools with cylindrical straight shank DIN 1835-A

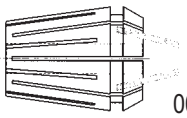


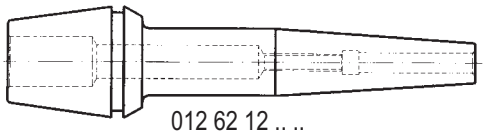


002 11 .. .. ..


002 14 .. .. ..


002 15 .. .. ..


002 16 .. .. ..

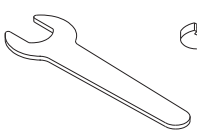
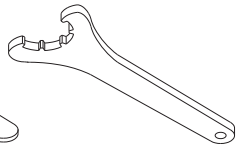

012 62 12 .. ..

Maximum circular deviation between threaded shank and collet housing ≤ 0,005

COLLETS see pages 257-259

D	SIZE	D_1 máx.	L	D_2	COD.	
29	(ER16)	10	35	28	**004 54 06 04 03**	301 01 02 06 20
46	(ER16)	10	75	28	**004 54 06 06 03**	301 01 02 12 30
46	(ER25)	16	45	42	**004 54 06 06 05**	301 01 02 12 30
46	(ER32)	20	55	50	**004 54 06 06 06**	301 01 02 12 30
46	(ER40)	26	65	63	**004 54 06 06 07**	301 01 02 12 30
63	(ER40)	26	60	63	**004 54 06 07 07**	301 01 02 20 40

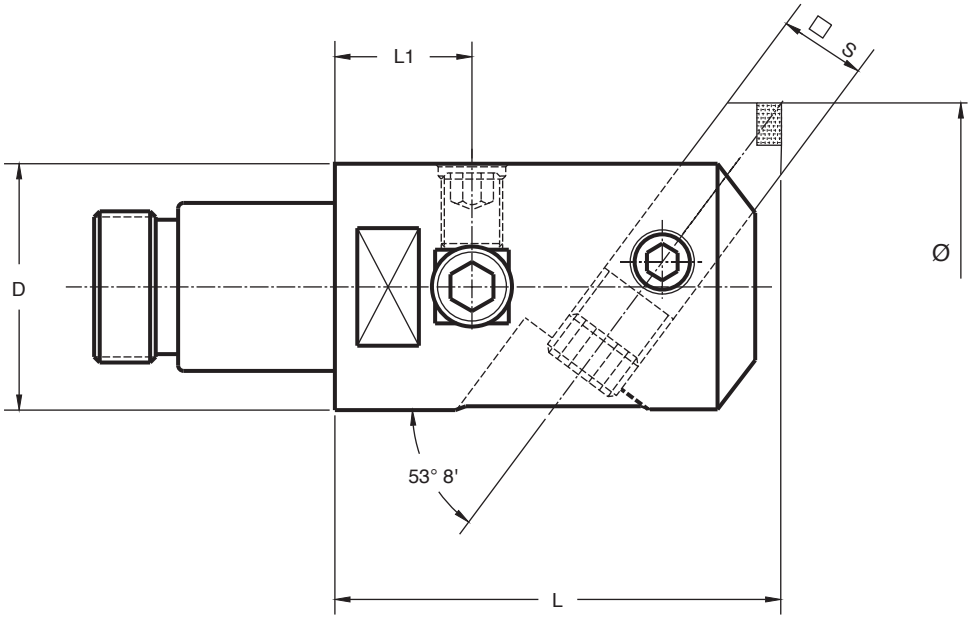
Accessories, see pages 267-293

	BALANCED NUT (STANDARD)		BEARING NUT (OPTIONAL)		WRENCH (OPTIONAL)	
						
SIZE						
ER 16	004 99 01 08 03	–	004 99 01 04 03	–	004 99 04 06 25	–
ER 25	–	004 99 01 03 05	–	004 99 01 04 05	–	004 99 04 03 05
ER 32	–	004 99 01 03 06	–	004 99 01 04 06	–	004 99 04 03 06
ER 40	–	004 99 01 03 07	–	004 99 01 04 07	–	004 99 04 03 07

005 54 01 .. ..

SHORT BORING BARS

DIN 6385 Form C



90° Ø	53° 8' Ø	D	L (MIN.)	L_1	□S	COD.	OPTIONAL
16 - 22	16 - 25	14,5	28	8	5	**005 54 01 01 01** ⚠	020 99 01 01 01
21 - 26	21 - 32	18,5	40	10	8	**005 54 01 01 02** ⚠	020 99 01 01 02
25 - 36	25 - 42	23	42	10	8	**005 54 01 01 03** ⚠	020 99 01 01 03
31 - 47	31 - 62	29	50	11	10	**005 54 01 01 04** ⚠	020 99 01 01 04
40 - 60	40 - 72	36	60	14	12	**005 54 01 01 05** ⚠	020 99 01 01 05
69 - 112	69 - 112	63	80	20	20	**005 54 01 01 07** ⚠	020 99 01 01 07
98 - 150	98 - 150	90	100	20	25	**005 54 01 01 08** ⚠	020 99 01 01 08

⚠ Product outside of our present production program. Price subject to availability.

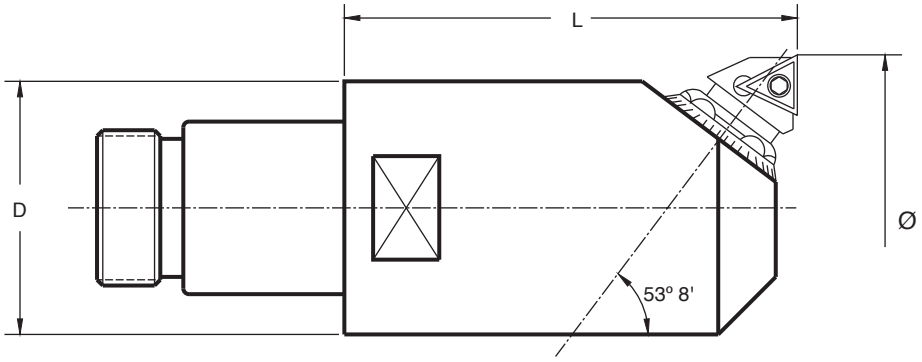
SPECIAL RINGS TO FIX THE ANGULAR POSITION OF CUTTING TOOL ARE AVAILABLE (see page 251)

COD.	 90°	 53° 8'	
005 54 01 01 01	005 99 01 01 01	005 99 01 02 01	301 01 03 04 05
005 54 01 01 02	005 99 01 01 02	005 99 01 02 02	301 01 03 06 06
005 54 01 01 03	005 99 01 01 02	005 99 01 02 02	301 01 03 06 06
005 54 01 01 04	005 99 01 01 03	005 99 01 02 03	301 01 03 08 08
005 54 01 01 05	005 99 01 01 04	005 99 01 02 04	301 01 03 10 10
005 54 01 01 06	005 99 01 01 05	005 99 01 02 05	301 01 03 12 12
005 54 01 01 07	005 99 01 01 06	005 99 01 02 06	301 01 03 16 16
005 54 01 01 08	005 99 01 01 07	005 99 01 02 07	301 01 03 20 25

005 54 03 .. ..

SHORT BORING BARS

For RIGIBORE and MICROBORE cartridges



One graduation of dial scale = 0,01 mm in radius

Ø	D	L para Ø	COD.	CARTRIDGE SIZE	INSERT	OPTIONAL	OPTIONAL RIGIBORE WRENCH
22 - 29	18,5	40	**005 54 03 02 02** ⚠	R2A2	TCM. 06T1..	020 99 01 01 02	R-26
28 - 35	23	42	**005 54 03 03 02** ⚠	TR2A2	TCM. 06T1..	020 99 01 01 03	R-26
35 - 47	29	50	**005 54 03 04 03** ⚠	TR3A2	TCM. 0902..	020 99 01 01 04	R-36
44 - 63	36	60	**005 54 03 05 05** ⚠	TR5A2	TCM. 1102..	020 99 01 01 05	R-36

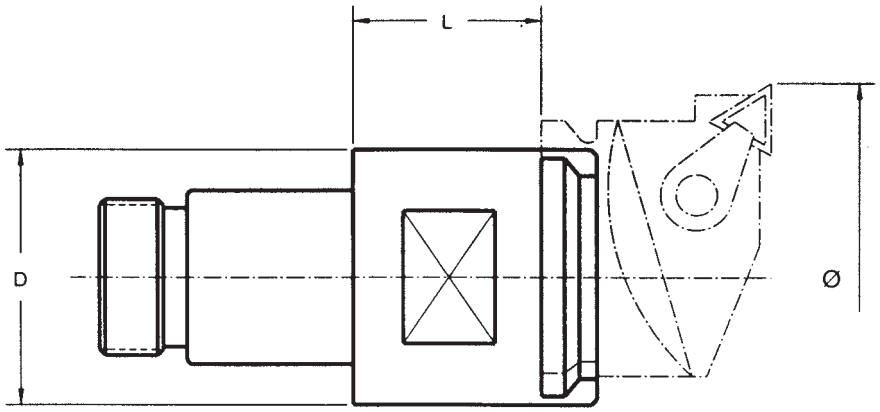
⚠ Product outside of our present production program. Price subject to availability.

Cartridges supply on request.

SPECIAL RINGS TO FIX THE ANGULAR POSITION OF CUTTING TOOL ARE AVAILABLE (see page 251)

005 54 04 .. ..

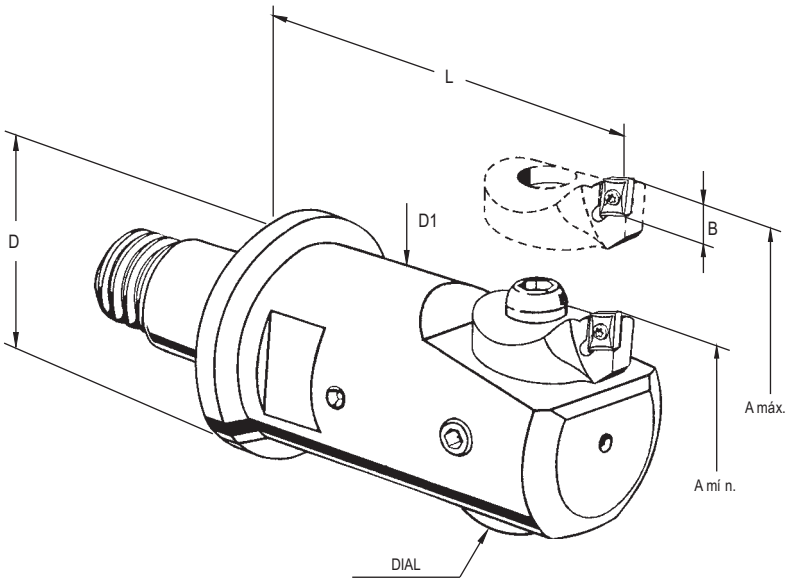
ADAPTER FOR SANDVIK COROMANT INSERTS HEADS

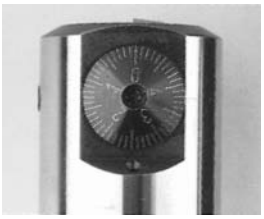


Ø	D	L	COD.	SANDVIK HEAD	OPTIONAL
80 - 112	63	60	**005 54 04 07 02** ⚠	R479 S - 637245 - 16	020 99 01 01 07
100 - 142				R471.5 - 808056 - 16	
100 - 142				R448 S - 808056 - 16	
130 - 160				R448 S - 809072 - 16	
160 - 190	90	80	**005 54 04 08 01** ⚠	R448 S - 809087 - 16	020 99 01 01 08
190 - 220				R448 S - 8090102 - 16	
220 - 250				R448 S - 8090117 - 16	

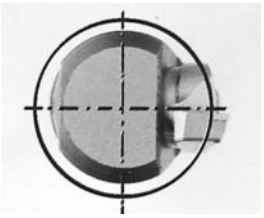
⚠ Product outside of our present production program. Price subject to availability.

005 54 06 .. .. MICROMETRIC FINE BORING HEADS

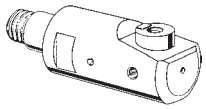




The radial adjustement of diameter with a dull chrome plated graduated screw guarantees high precision without variation of tool lenght. One graduation = 0,01 mm. in diameter. 0,002 mm by nonius. With inner coolant supply.



Optimum cutting edge geometry by accurate alignement of the inserts to boring center.



Clamping for rhombic insert system with TORX screw.

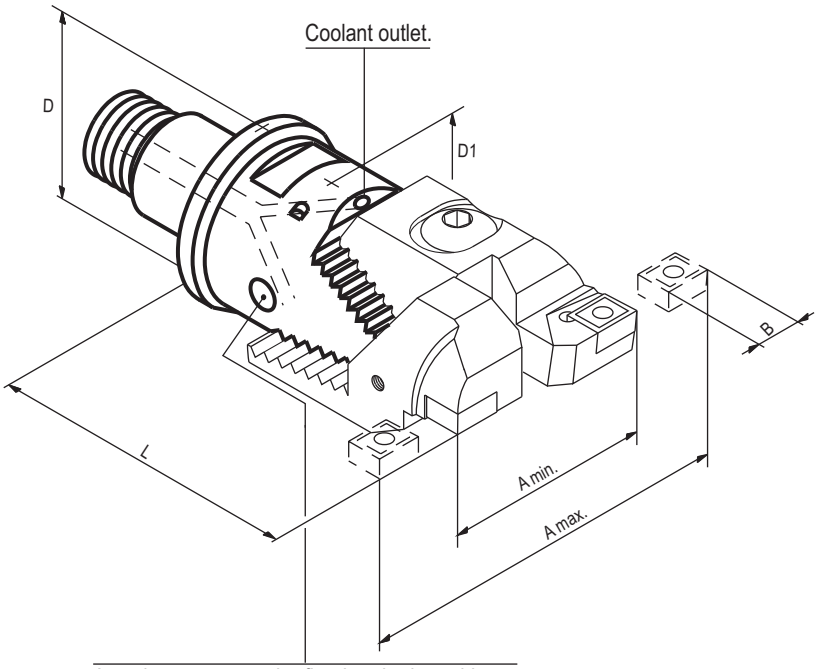
D	D_1	A mí n.	A máx.	L	COD.	OPTIONAL
23	20	24	31	43	**005 54 06 03 02**	020 99 01 01 02
29	25	31	40	50	**005 54 06 04 03**	020 99 01 01 03
36	32	40	51	65	**005 54 06 05 04**	020 99 01 01 04
46	42	51	67	80	**005 54 06 06 05**	020 99 01 01 05
63	55	67	87	100	**005 54 06 07 06**	020 99 01 01 06
63	72	87	116	120	**005 54 06 07 07**	020 99 01 01 07
90	94	116	153	150	**005 54 06 08 08**	020 99 01 01 08

SPECIAL RINGS TO FIX THE ANGULAR POSITION OF CUTTING TOOL ARE AVAILABLE (see page 251)

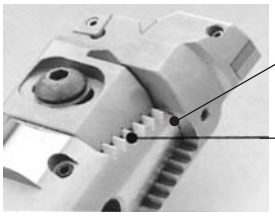
015 06 01 .. .. INSERT HOLDERS FOR MICROMETRIC FINE BORING HEADS 005 54 06 .. ..

		B	B			
005 54 06 03 02	**015 06 01 02 01**	ISO CCMT 0602..	6	351 15 06 01 02 00	351 05 54 06 12 00	351 05 54 06 22 00
005 54 06 04 03	**015 06 01 03 01**	ISO CCMT 0602..	6	351 15 06 01 02 00	351 05 54 06 13 00	351 05 54 06 23 00
005 54 06 05 04	**015 06 01 04 01**	ISO CCMT 0602..	6	351 15 06 01 02 00	351 05 54 06 14 00	351 05 54 06 24 00
005 54 06 06 05	**015 06 01 05 01**	ISO CCMT0 0602..	6	351 15 06 01 02 00	351 05 54 06 15 00	351 05 54 06 25 00
005 54 06 07 06	**015 06 01 06 01**	ISO CCMT 0602..	6	351 15 06 01 02 00	351 05 54 06 16 00	351 05 54 06 26 00
005 54 06 07 07	**015 06 01 06 02**	ISO CCMT 09T3..	9	351 15 06 01 03 00	351 05 54 06 16 00	351 05 54 06 27 00
005 54 06 08 08					351 05 54 06 16 00	351 05 54 06 28 00

005 54 07 .. .. DOUBLE CUTTER HEADS

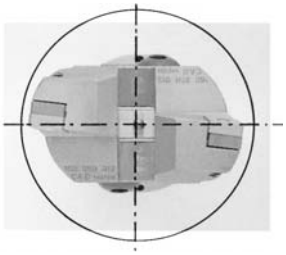


A setting gauge can be fitted to the lateral bore.

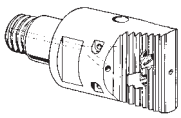


The two surfaces are always in contact. Thereby, obtaining an increased dynamic rigidity.

As a result of larger cog sizes, there is a much higher surface contact.



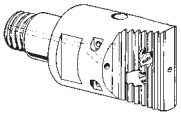
Optimum cutting edge geometry of the boring heads by accurate alignment of the inserts to boring center allows a maximum of productivity.



D	D_1	A mí n.	A máx.	L	COD.	OPTIONAL
23	20	23,5	30,5	43	**005 54 07 03 02**	020 99 01 01 02
29	25	29,5	40	50	**005 54 07 04 03**	020 99 01 01 03
36	32	39,5	50,5	65	**005 54 07 05 04**	020 99 01 01 04
46	42	49,5	66,5	80	**005 54 07 06 05**	020 99 01 01 05
63	55	65,5	87,5	100	**005 54 07 07 06**	020 99 01 01 06
63	72	86,5	115,5	120	**005 54 07 07 07**	020 99 01 01 07
90	94	114,5	153	150	**005 54 07 08 08**	020 99 01 01 08

Insert holders see page 246

SPECIAL RINGS TO FIX THE ANGULAR POSITION OF CUTTING TOOL ARE AVAILABLE (see page 251)

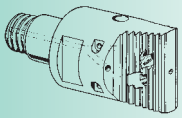
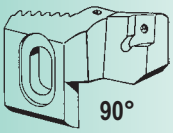
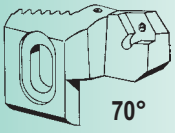
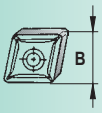


005 54 07 03 02	351 05 54 07 12 00	351 05 54 07 21 00	351 05 54 07 31 00	351 05 54 07 42 00
005 54 07 04 03	351 05 54 07 13 00	351 05 54 07 22 00	351 05 54 07 32 00	351 05 54 07 43 00
005 54 07 05 04	351 05 54 07 14 00	351 05 54 07 23 00	351 05 54 07 33 00	351 05 54 07 44 00
005 54 07 06 05	351 05 54 07 15 00	351 05 54 07 24 00	351 05 54 07 34 00	351 05 54 07 45 00
005 54 07 07 06	351 05 54 07 16 00	351 05 54 07 25 00	351 05 54 07 35 00	351 05 54 07 46 00
005 54 07 07 07	351 05 54 07 17 00	351 05 54 07 26 00	351 05 54 07 36 00	351 05 54 07 47 00
005 54 07 08 08	351 05 54 07 18 00	351 05 54 07 27 00	351 05 54 07 37 00	351 05 54 07 48 00

015 07 01 02 .. ..

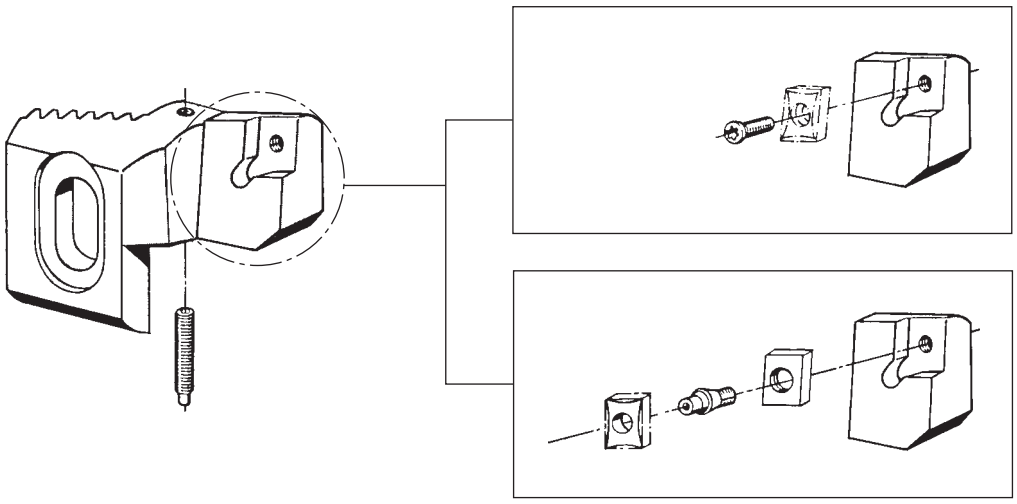
INSERT HOLDERS FOR DOUBLE CUTTER HEADS 005 54 07....

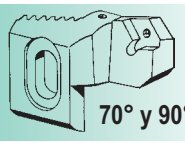
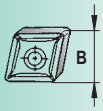
page 245

	 90°	 70°	 B
005 54 07 03 02	**015 07 01 02 01**	**015 07 02 02 01**	6
005 54 07 04 03	**015 07 01 03 01**	**015 07 02 03 01**	6
005 54 07 05 04	**015 07 01 04 02**	**015 07 02 04 02**	9
005 54 07 06 05	**015 07 01 05 02**	**015 07 02 05 02**	9
005 54 07 07 06	**015 07 01 06 03**	**015 07 02 06 03**	12
005 54 07 07 07	**015 07 01 07 04**	**015 07 02 07 04**	16
005 54 07 08 08	**015 07 01 08 04**	**015 07 02 08 04**	16

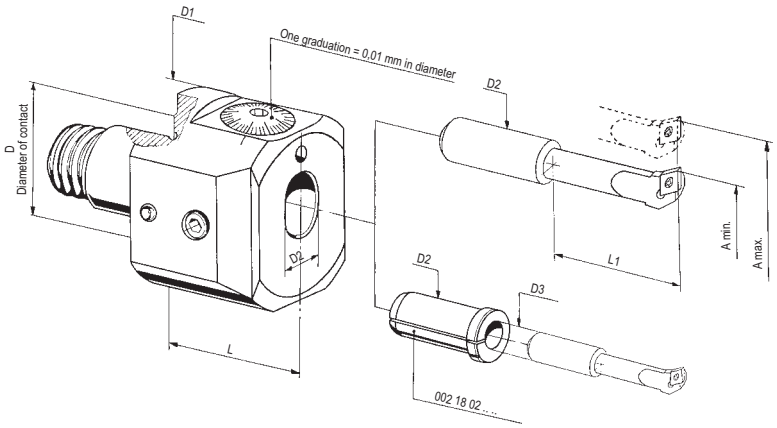
The rigid clamping system of the inserts prevents any interference with the chip flow.

The 70° tool holders allow a 100% use of the chambic shaped insert (2 angles with 90° tool holders serie 015 07 01 angles and 2 angles with the 70° tool holders, serie 015 07 02).



 70° y 90°					 B
015 07 .. 02 01	351 15 07 01 02	351 15 06 01 02 00	—	—	ISO CCMT 0602
015 07 .. 03 01	351 15 07 01 03	351 15 06 01 02 00	—	—	ISO CCMT 0602
015 07 .. 04 02	351 15 07 01 04	351 15 06 01 03 00	—	—	ISO CCMT 09T3
015 07 .. 05 02	351 15 07 01 05	351 15 06 01 03 00	—	—	ISO CCMT 09T3
015 07 .. 06 03	351 15 07 01 06	—	351 15 07 03 05	351 15 07 04 05	ISO CNMM 1204
015 07 .. 07 04	351 15 07 01 07	—	351 15 07 03 06	351 15 07 04 06	ISO CNMM 1606
015 07 .. 08 04	351 15 07 01 08	—	351 15 07 03 06	351 15 07 04 06	ISO CNMM 1606

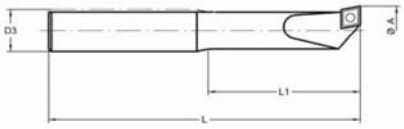
005 54 08 06 11 MICROMETRIC FINE BORING HEADS



SPECIAL RINGS TO FIX THE ANGULAR POSITION OF CUTTING TOOL ARE AVAILABLE (see page 251)

D	D_1	A mín.	A máx.	D_2	L	COD.	OPTIONAL
46	55	3	53	16	53	**005 54 08 06 11**	**020 99 01 01 17**

015 09/01 19/02 .. .. TOOL FOR MICROMETRIC FINE BORING HEADS COD. 005 54 08 06 11 (005 54 08 07 02)



Para $A_{máx.}$ > 37,1 hasta $A_{máx.}$53, consultar

D_3	$A_{mín.}$	$A_{máx.}$	L	L_1	COD.	INSERT
10	3,0	8,0	–	20	015 19 01 10 03	–
10	5,0	10,0	–	25	015 19 01 10 05	–
16	9,75	15,1	75	30	015 19 02 16 10	CC..0602..
16	11,75	17,1	80	35	015 09 02 16 12	CC..0602..
16	13,75	19,1	85	40	015 19 02 16 14	CC..0602..
16	17,75	23,1	100	55	015 19 02 16 18	CC..0602..
16	21,75	27,1	110	85	015 19 02 16 22	CC..09T3..
16	24,75	30,1	115	85	015 19 02 16 25	CC..09T3..
16	27,75	33,1	115	85	015 19 02 16 28	CC..09T3..
16	31,75	37,1	115	85	015 19 02 16 32	CC..09T3..
16	34,75	40,1	115	85	015 19 02 16 35	CC..09T3..
16	38,75	44,1	115	85	015 19 02 16 39	CC..09T3..
16	42,75	48,1	115	85	015 19 02 16 43	CC..09T3..
16	47,75	53,1	115	85	015 19 02 16 48	CC..09T3..

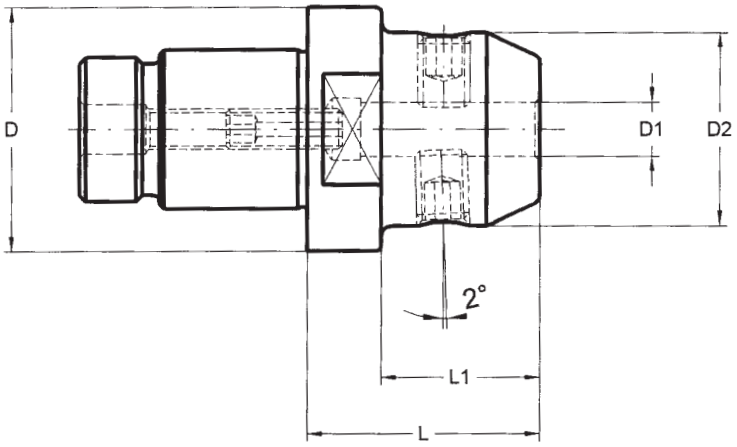
002 18 02 03 .. .. REDUCING ADAPTER FOR MICROMETRIC FINE BORING HEADS COD. 005 54 08 06 11 (005 54 08 07 02)

D_2	D_3	L	COD
10	6	29,5	**002 18 02 06 00**
10	8	29,5	**002 18 02 08 00**
16	6	37	**002 18 03 06 00**
16	8	37	**002 18 03 08 00**
16	10	37	**002 18 03 10 00**
16	12	37	**002 18 03 12 00**

012 54 04 .. ..

WELDON AND WHISTLE-NOTCH END MILL HOLDERS

For end mills with shank DIN 1835 - B and / or DIN 1835 - E



Maximum circular deviation between threaded shank and D_1 ≤ 0,005

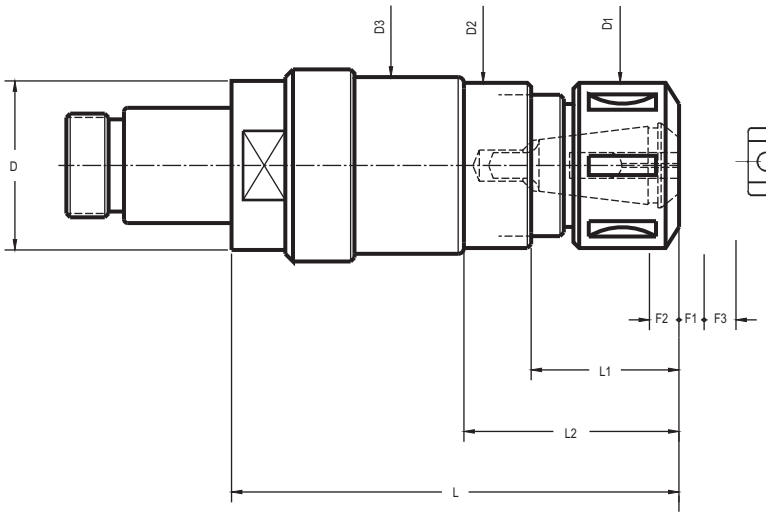
D	D_1 H5	L	L_1	D_2	G	COD.			OPTIONAL
46	6	40	26	25	M-5	**012 54 04 16 06**	301 02 70 05 01	301 01 05 06 10	020 99 01 01 06
46	8	40	26	28	M-6	**012 54 04 16 08**	301 02 70 06 01	301 01 05 08 10	020 99 01 01 06
46	10	44	30	35	M-8	**012 54 04 16 10**	301 02 70 08 01	301 01 05 10 12	020 99 01 01 06
46	12	50	36	42	M-10	**012 54 04 16 12**	301 02 70 10 01	301 01 05 12 16	020 99 01 01 06
46	14	50	36	44	M-10	**012 54 04 16 14**	301 02 70 10 01	301 01 05 12 16	020 99 01 01 06
46	16	60	–	46	M-12	**012 54 04 16 16**	301 02 70 12 01	301 01 05 14 16	020 99 01 01 06
46	18	60	–	46	M-12	**012 54 04 16 18**	301 02 70 12 01	301 01 05 14 16	020 99 01 01 06
46	20	65	–	46	M-16	**012 54 04 16 20**	301 02 70 16 01	301 01 05 16 16	020 99 01 01 06
63	20	65	45	52	M-16	**012 54 04 17 20**	301 02 70 16 01	301 01 05 16 16	020 99 01 01 07
63	25	70	–	63	M-20	**012 54 04 17 25**	301 02 70 20 01	301 01 05 18 20	020 99 01 01 07
63	32	75	–	63	M-20	**012 54 04 17 32**	301 02 70 20 01	301 01 05 20 20	020 99 01 01 07

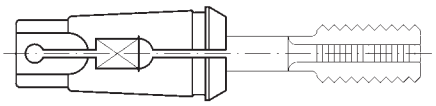
D_1 = > 25 mm: two clamping holes

019 54 51 .. .. 2.

TAPPING CHUCKS

Self feed and compression system. Releasing drive system.
For LAIP 0219 collet





002 19 .. .. ..

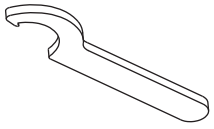
COLLET see page 256

D	CAP.	L	D_1	L_1	D_2	L_2	D_3	F_1	F_2	F_3	COD.	OPTIONAL
63	M8-M28	157	50	42	60	68	66	6	10	12	**019 54 51 07 03 23** ⚠	020 99 01 01 07

⚠ Product outside of our present production program. Price subject to availability.

Axial compensation (compression and extensions) values are F_1 and F_2. F_3 is the release value (the tap receives only reversing rotation). The release system allows to easily and accurately set up tapping depth, specially adapt for blind holes.

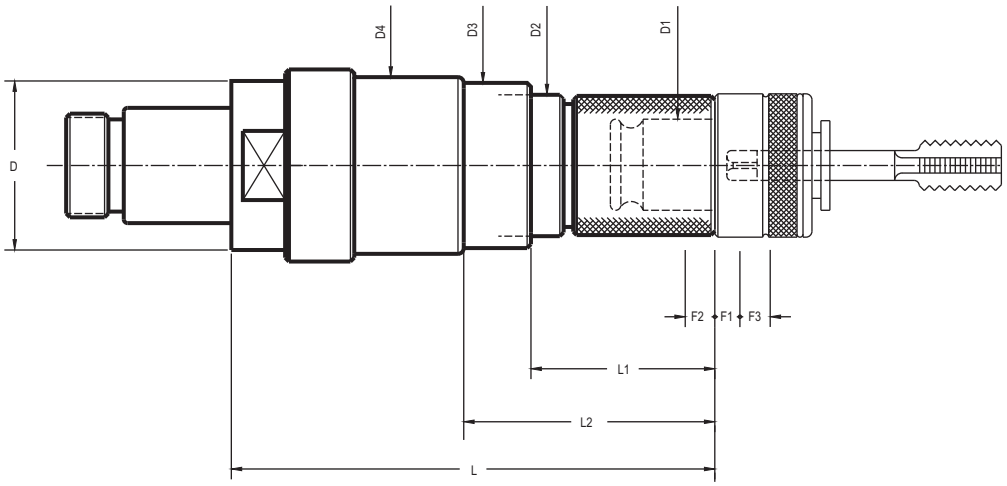
Accessories, see pages 267-293

CAP.	BALANCED NUT (STANDARD)	BEARING NUT (OPTIONAL)	WRENCH (OPTIONAL)
			
M3-M16	–	004 99 01 02 03	004 99 04 09 08
M8-M28	004 99 01 01 04	004 99 01 02 04	004 99 04 09 09

019 54 51 .. .. 3.

QUICK-CHANGE TAPPING CHUCKS

Self feed and compression system. Releasing drive system.
For BILZ system tap adapter



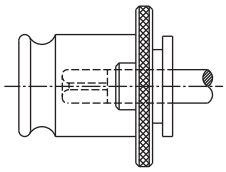
BILZ Adapter

D	CAP.	D_1	L	D_2	L_1	D_3	L_2	D_4	F_1	F_2	F_3	COD.	OPTIONAL
63	M8-M20 (M30)*	31	178	51	63	60	89	66	6	10	12	**019 54 51 07 03 33**	020 99 01 01 07

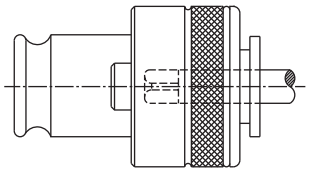
Axial compensation (compression and extensions) values are F_1 and F_2. F_3 is the release value (the tap receives only reversing rotation). The release system allows to easily and accurately set up tapping depth, specially adapt for blind holes.

* With 002 22 .. .. .. and 002 24 .. .. .. adapters

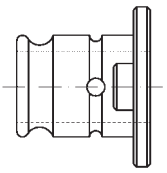
See page 263



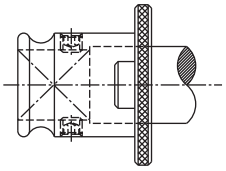
002 21 ..



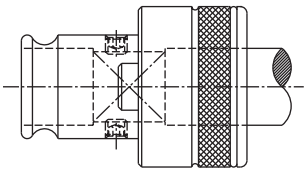
002 23 ..



002 20 ..



002 22 ..



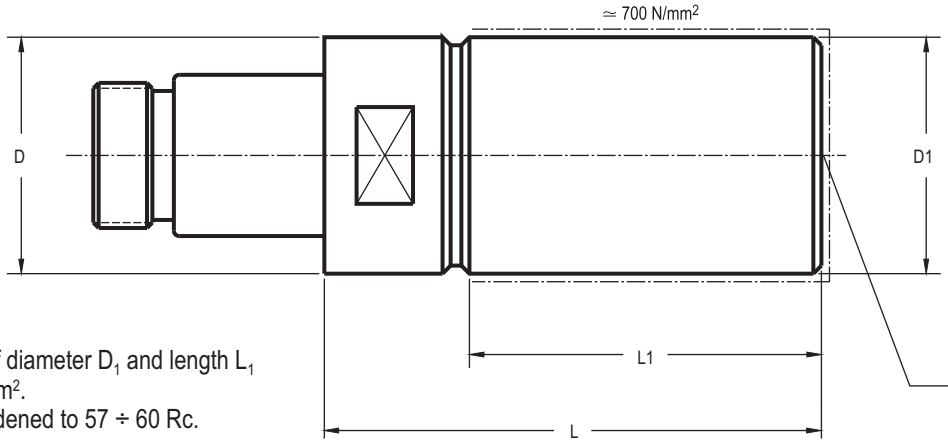
002 24 ..

D_1

19	002 21 02	002 22 02	002 23 02	002 24 02
31	002 21 03	002 22 03	002 23 03	002 24 03

020 54 02 .. ..

TOOLHOLDER BLANKS

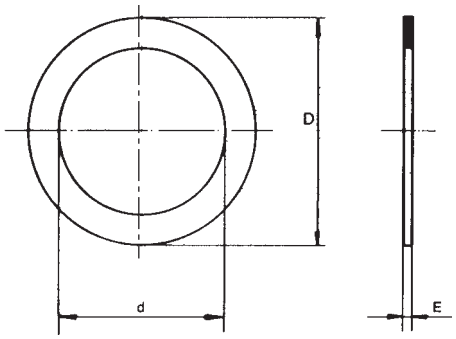


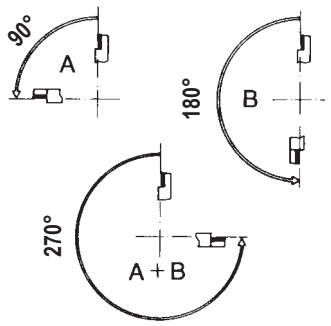
– The area of diameter D_1 and length L_1 has 700 N/mm².
– Rest is hardened to 57 ÷ 60 Rc.

D	D_1	L	L_1	COD.	OPTIONAL
14,5	14,5	75	65	**020 54 02 01 01**	020 99 01 01 01
18,5	18,5	75	65	**020 54 02 02 01**	020 99 01 01 02
23	23	100	88	**020 54 02 03 01**	020 99 01 01 03
29	29	100	85	**020 54 02 04 01**	020 99 01 01 04
36	36	100	82	**020 54 02 05 01**	020 99 01 01 05
46	46	150	130	**020 54 02 06 01**	020 99 01 01 06
63	63	150	125	**020 54 02 07 01**	020 99 01 01 07
90	90	200	170	**020 54 02 08 01**	020 99 01 01 08

020 54 03 .. ..

RINGS TO FIX THE ANGULAR POSITION OF BORING HEADS (MODULAR TOOLING)





Ø	d	E	COD.		ANGULAR CORRECTION	ACCUMULATED ANGULAR CORRECTION A + B
14,5	10,5	0,37	**020 54 03 01 01**	A	90°	270°
14,5	10,5	0,75	**020 54 03 01 02**	B	180°	
18,5	13	0,44	**020 54 03 02 01**	A	90°	270°
18,5	13	0,87	**020 54 03 02 02**	B	180°	
23	16	0,5	**020 54 03 03 01**	A	90°	270°
23	16	1	**020 54 03 03 02**	B	180°	
29	20	0,5	**020 54 03 04 01**	A	90°	270°
29	20	1	**020 54 03 04 02**	B	180°	
36	26	0,62	**020 54 03 05 01**	A	90°	270°
36	26	1,25	**020 54 03 05 02**	B	180°	
46	30	0,75	**020 54 03 06 01**	A	90°	270°
46	30	1,5	**020 54 03 06 02**	B	180°	
63	46	1,12	**020 54 03 07 01**	A	90°	270°
63	46	2,25	**020 54 03 07 02**	B	180°	
90	46	1,12	**020 54 03 08 01**	A	90°	270°
90	46	2,25	**020 54 03 08 02**	B	180°	