



**APEX**  
TOOL GROUP

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**Recoules**  
**Quackenbush®**

## Microstop Cages



Apex Tool Group, your partner for your manual drilling applications.

One supplier for the complete solution



Cutters



MicroStop Cage



Manual drill

## Recoules MicroStop cage range



**RB 156**



**RB 206**



**RB 256**



**RB 257**



**RB 258**



**RB 306**



**RB 307**



**RB 406**



**RB 356 HP**



## Quality

- Centring cone of the cutter (120° ) for perfect concentricity
- Ball pivoting spindle to avoid any misalignment



## Durability

- Microstop depth secured by locknut with seal
- Cemented, hardened and ground chrome-nickel steel spindle



## Accuracy

- Microstop depth adjustment
- Tripod for RB 356 HP ensures maximum stability while drilling



## RB 156: Benefits

- ✓ Different mounting bases available
- ✓ Reduced dimensions for **limited access area**
- ✓ Mounting Base with Vacuum to be used in Carbon Fiber
- ✓ Centring cone of the cutter (120° ) for **perfect concentricity**
- ✓ Microstop **depth secured by locknut** with seal allowing an easy loosening of the locknut without damage the drill cage

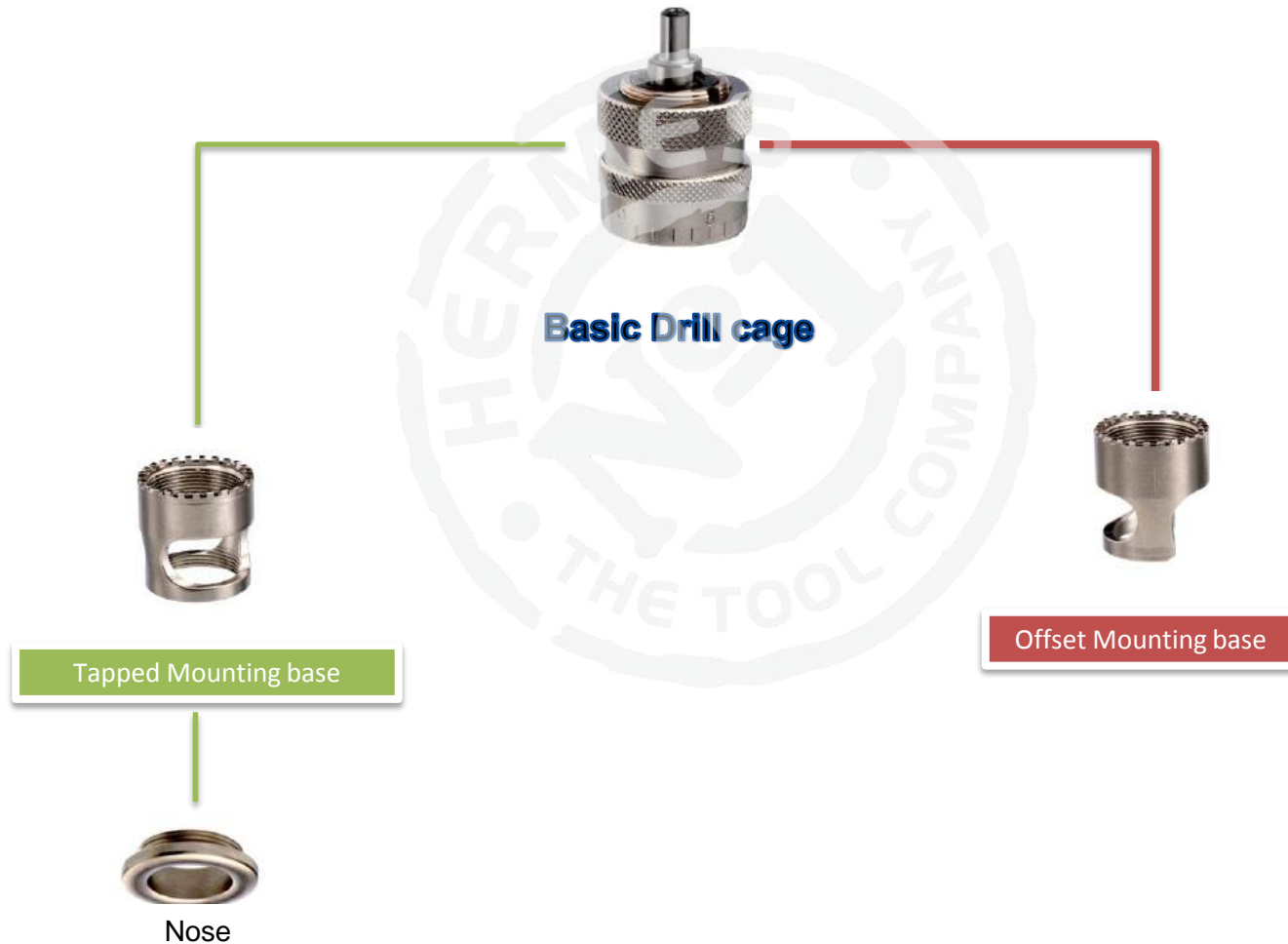
Small or wide window to  
better eliminate chips



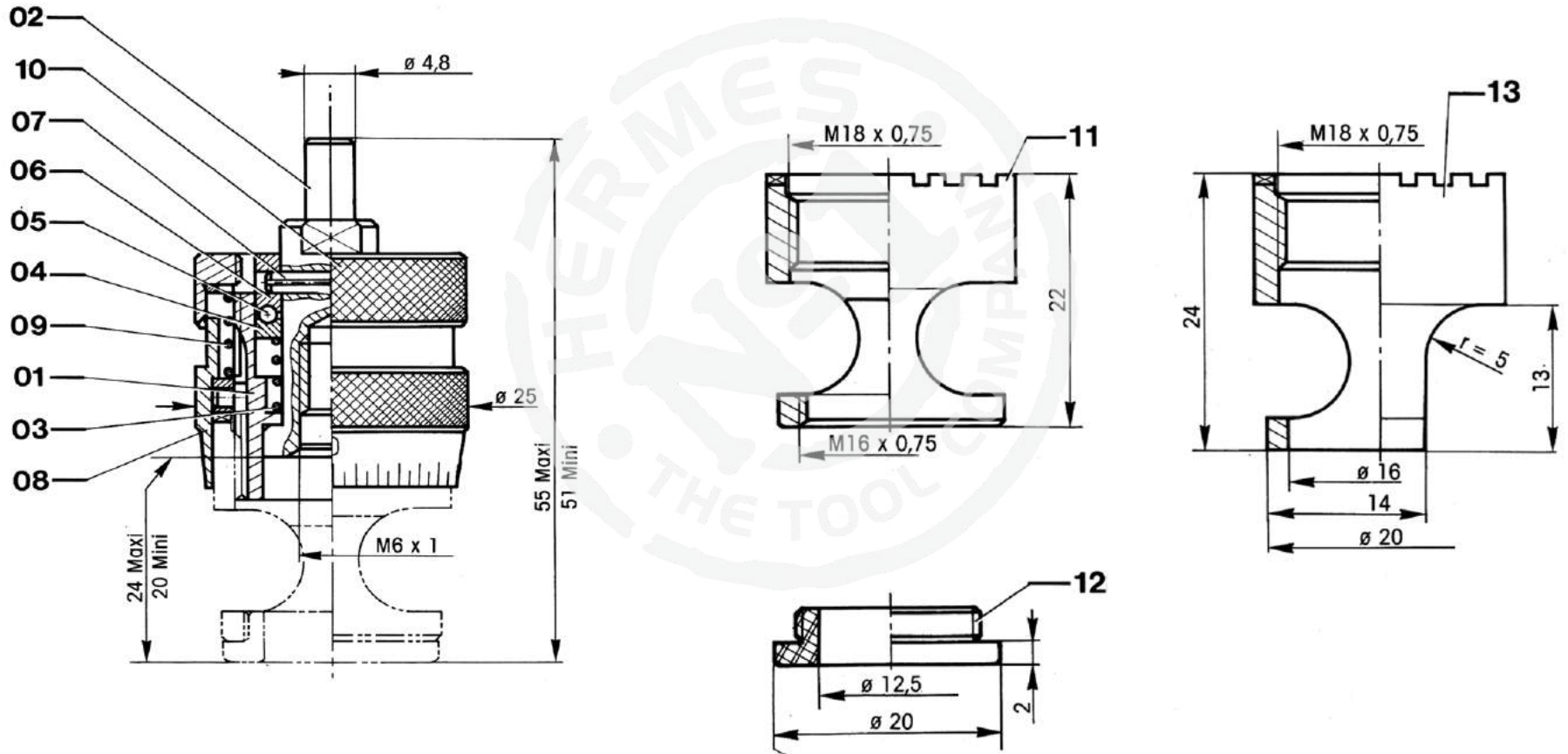
RB 156

Microstop depth adjustment  
(1 scale division = .0,025 mm )

# RB 156—Mounting base configuration



# RB 156 – Dimensional Drawings



## RB 206: Benefits

- ✓ Different mounting bases available
- ✓ Reduced dimensions for **limited access area**
- ✓ Mounting Base with Vacuum to be used in Carbon Fiber
- ✓ Centring cone of the cutter (120° ) for **perfect concentricity**
- ✓ Microstop **depth secured by locknut** with seal allowing an easy loosening of the locknut without damage the drill cage

Small or wide window to better eliminate chips



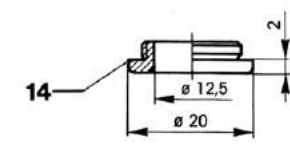
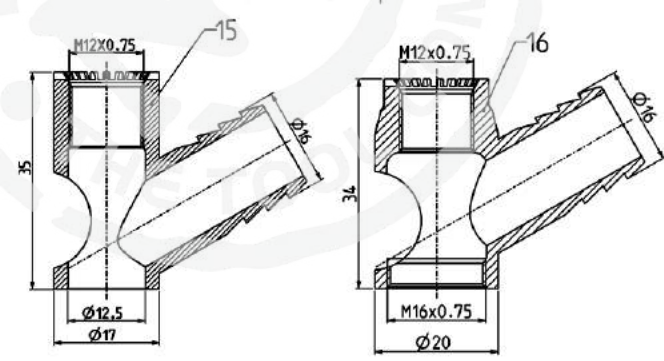
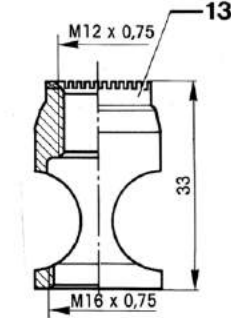
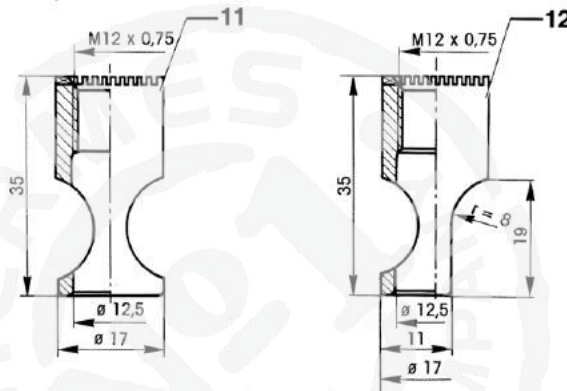
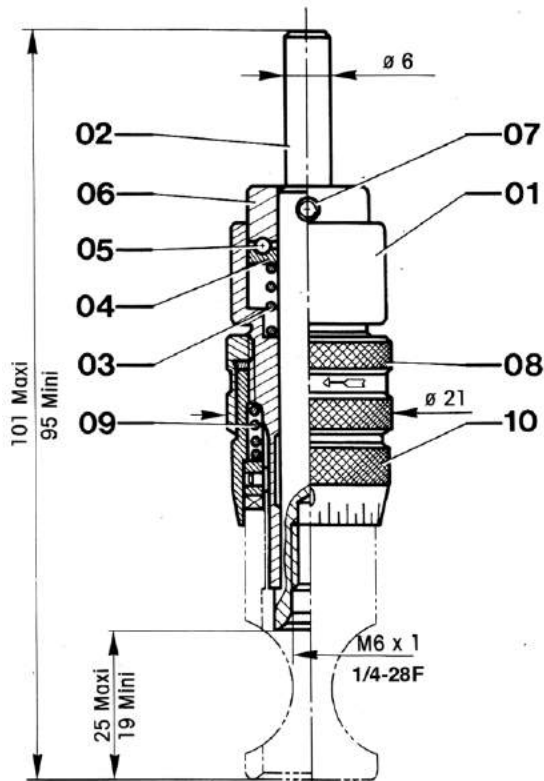
RB 206

Microstop depth adjustment  
(1 scale division = .0,025 mm )





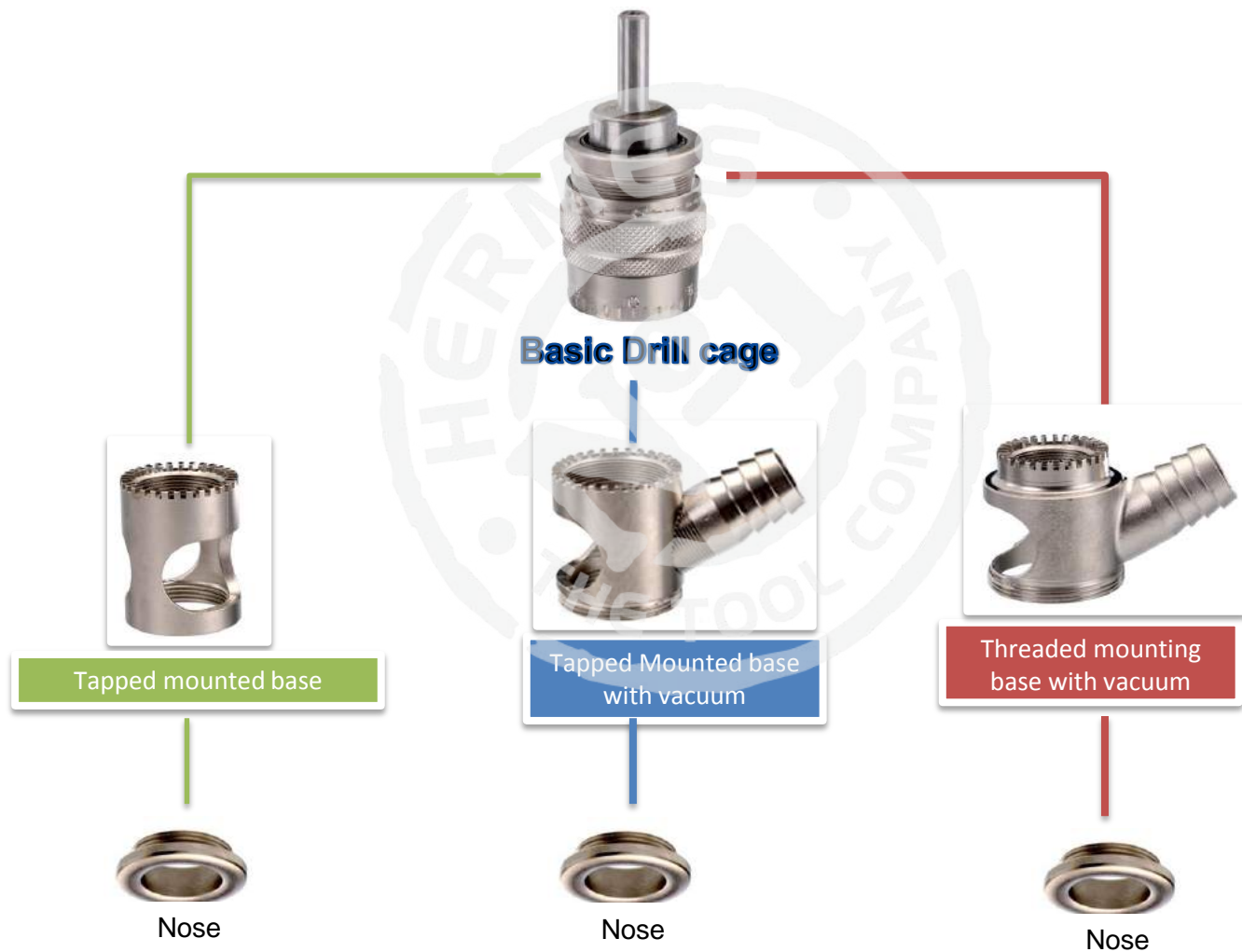
# RB 206 – Dimensional Drawings



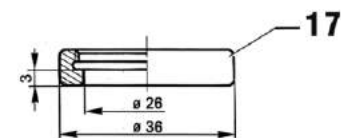
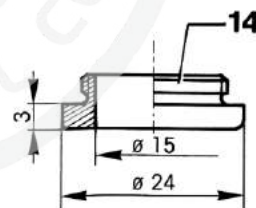
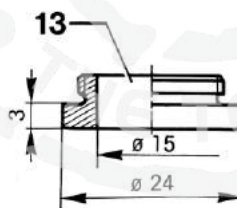
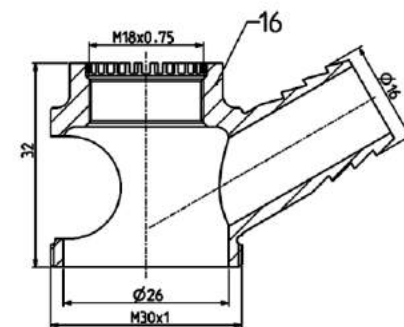
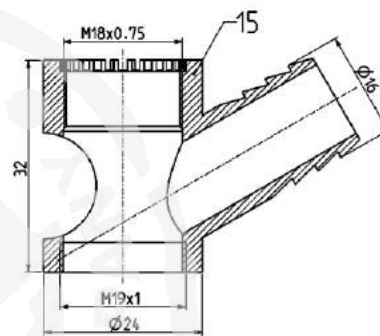
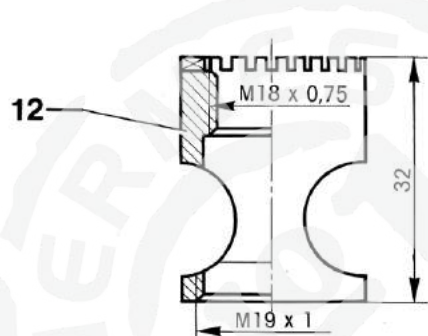
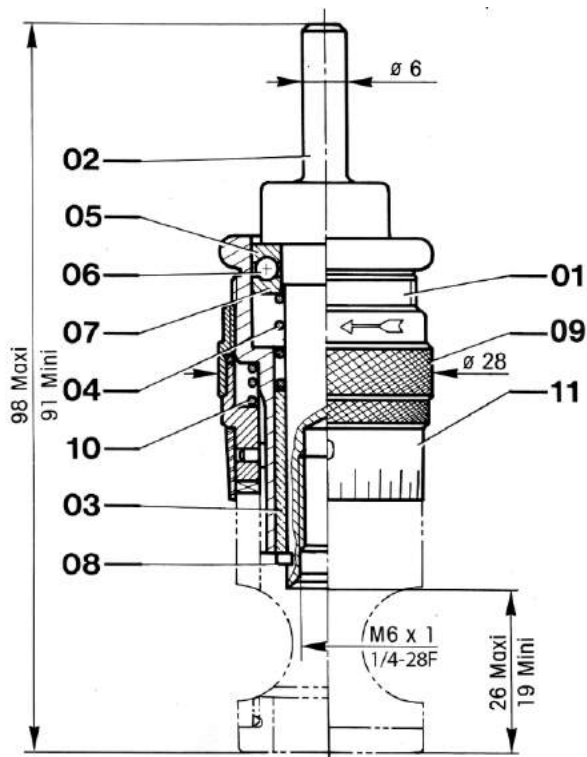
## RB 256: Benefits

- ✓ Different mounting bases available
- ✓ Reduced dimensions for **limited access area**
- ✓ Mounting Base with Vacuum to be used in Carbon Fiber
- ✓ Ball pivoting spindle to avoid any misalignment
- ✓ Microstop **depth secured by locknut** with seal allowing an easy loosening of the locknut without damage the drill cage





# RB 256 – Dimensional Drawings



## RB 257/RB 258: Benefits

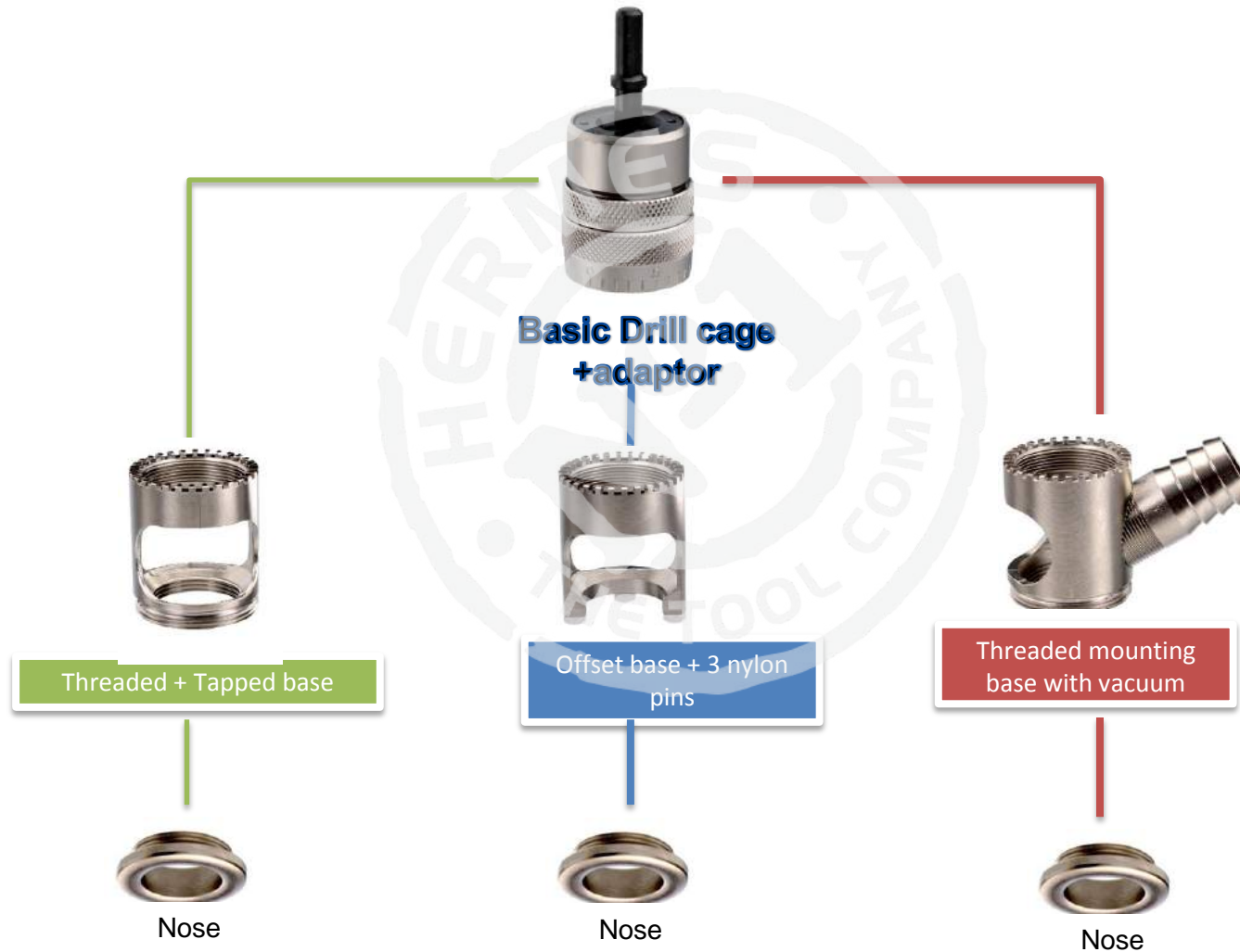
- ✓ Different mounting bases available
- ✓ Reduced dimensions for limited access area
- ✓ Mounting Base with Vacuum to be used in Carbon Fiber
- ✓ Ball pivoting spindle to avoid any misalignment ensuring
- ✓ perpendicularity during the operation
- ✓ **High precision** microstop cage
- ✓ Centring cone of the cutter (120° ) for **perfect concentricity**
- ✓ Microstop depth secured by locknut with seal allowing an easy loosening of the locknut without damage the drill cage



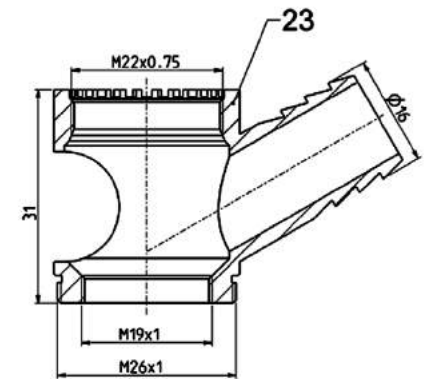
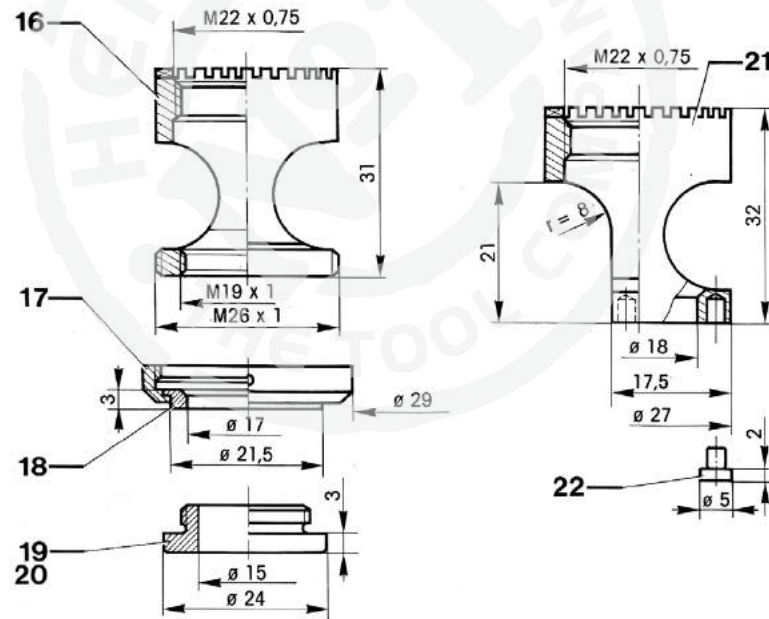
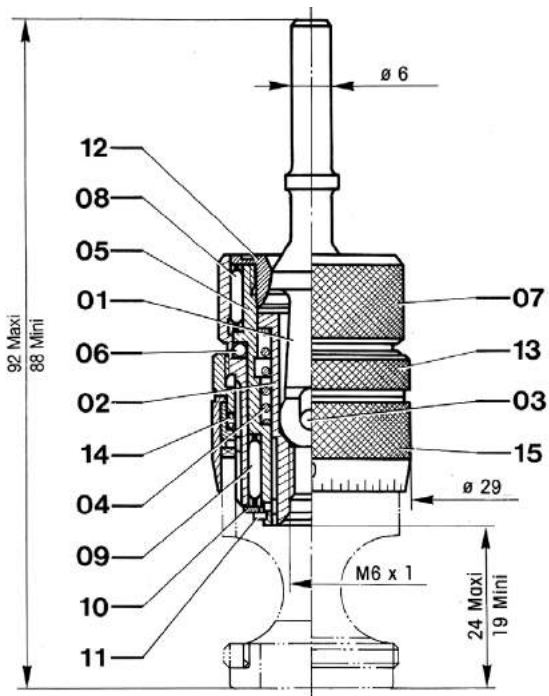
RB 257



RB 258

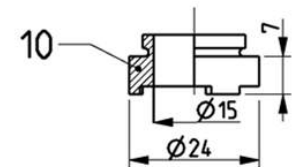
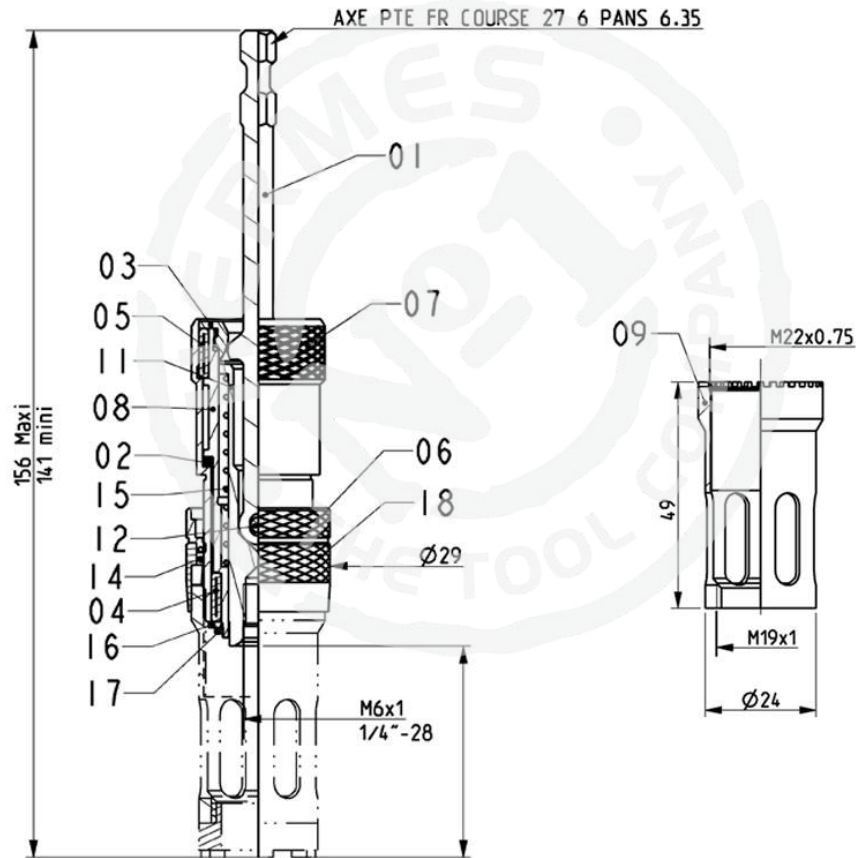


# RB 257–Dimensional Drawings





# RB 258–Mounting base configuration



## RB 306: Benefits

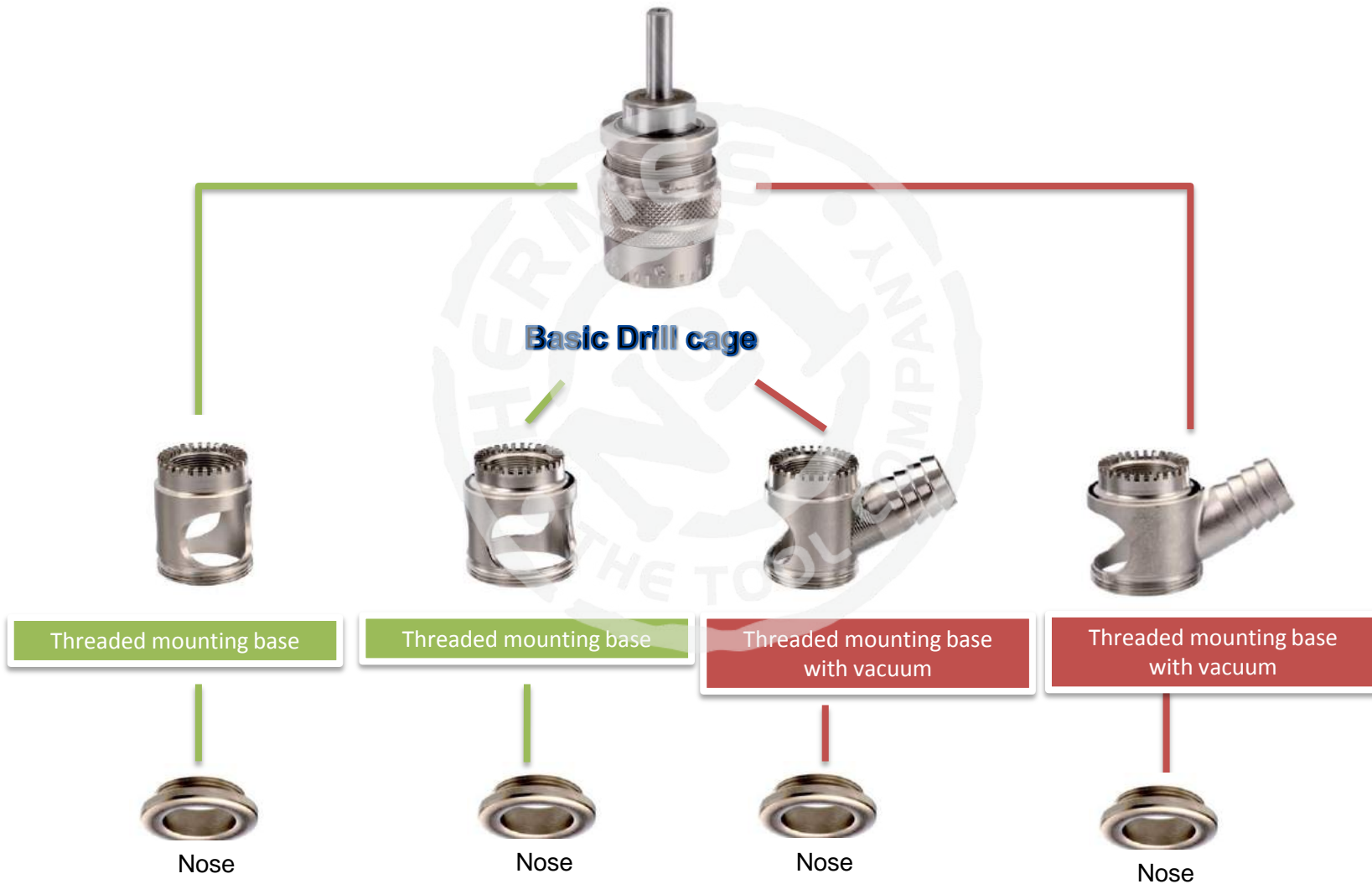
- ✓ Different mounting bases available
- ✓ Designed for cutters with dia > 10 mm
- ✓ Mounting Base with Vacuum to be used in Carbon Fiber
- ✓ Centring cone of the cutter (120° ) for **perfect concentricity**
- ✓ Microstop depth secured by locknut with seal allowing an easy
- ✓ loosening of the locknut without damage the drill cage

Small or wide window  
to better eliminate chips

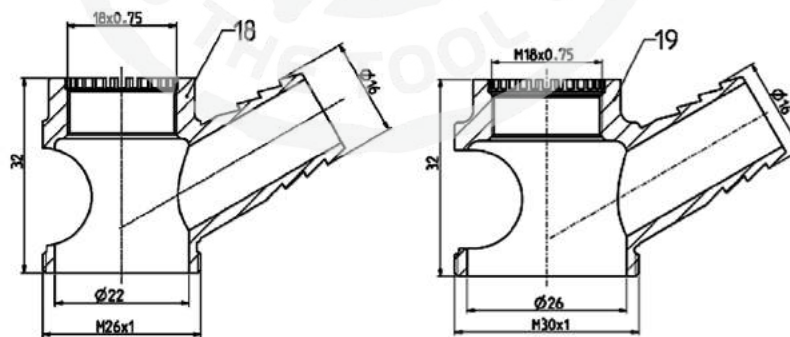
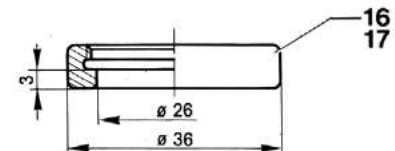
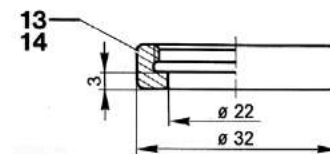
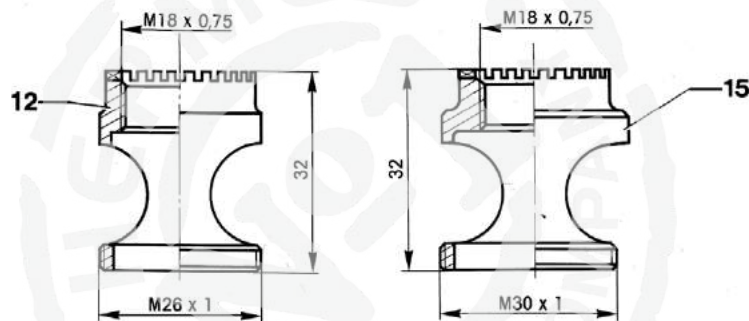
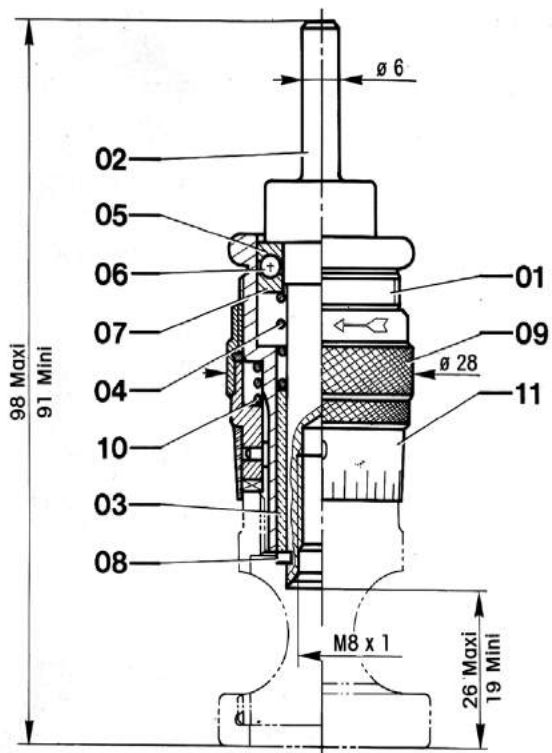


RB 306

Microstop depth adjustment  
(1 scale division = 0,025 mm )



# RB 306—Dimensional Drawings



## RB 307: Benefits

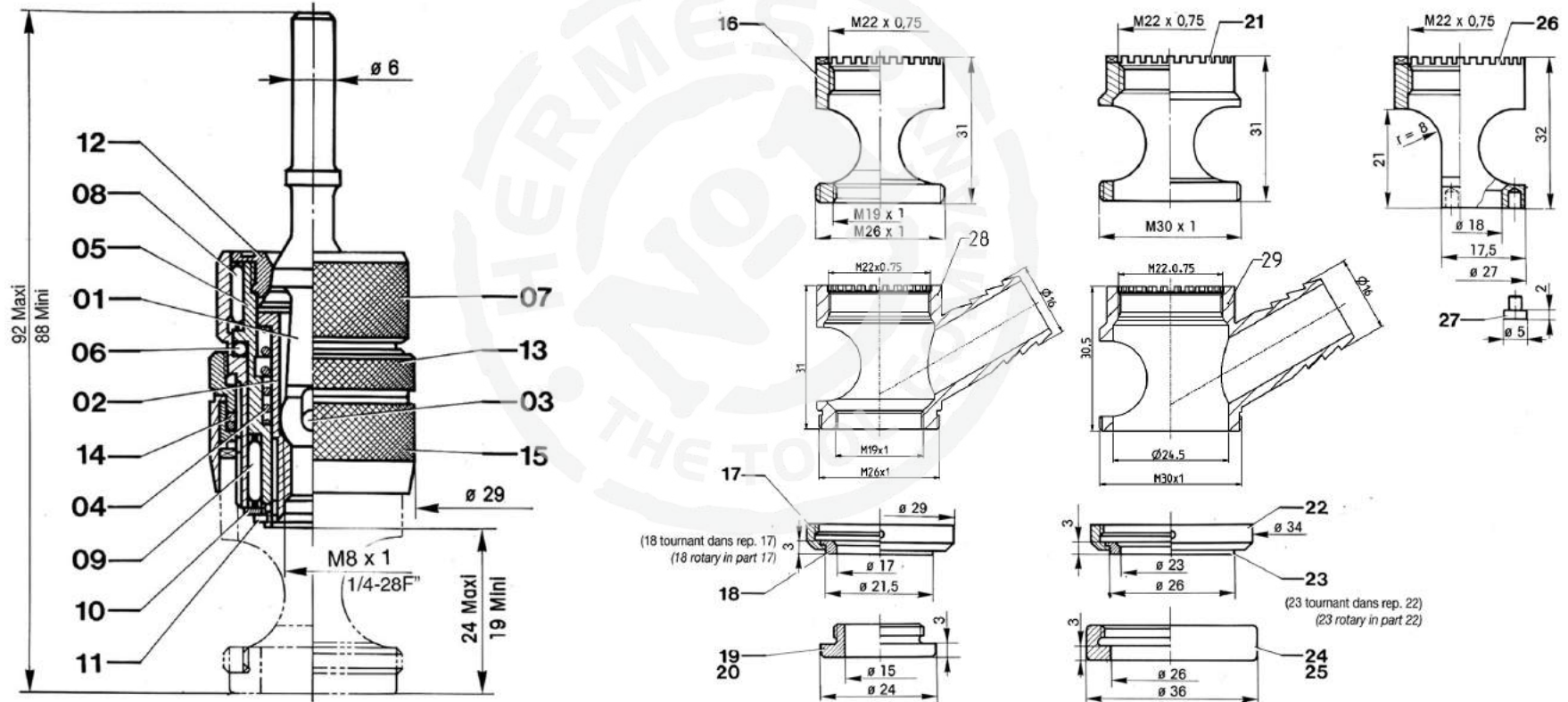
- ✓ Different mounting bases available
- ✓ Reduced dimensions for limited access area
- ✓ Mounting Base with Vacuum to be used in Carbon Fiber
- ✓ Centring cone of the cutter ( $120^{\circ}$ ) for **perfect concentricity**
- ✓ Ball pivoting spindle to avoid any misalignment ensuring perpendicularity during the operation
- ✓ **High precision** microstop cage
- ✓ Microstop depth secured by locknut with seal allowing an easy loosening of the locknut without damage the drill cage



RB 307



# RB 307–Dimensional Drawings



## RB 406: Benefits

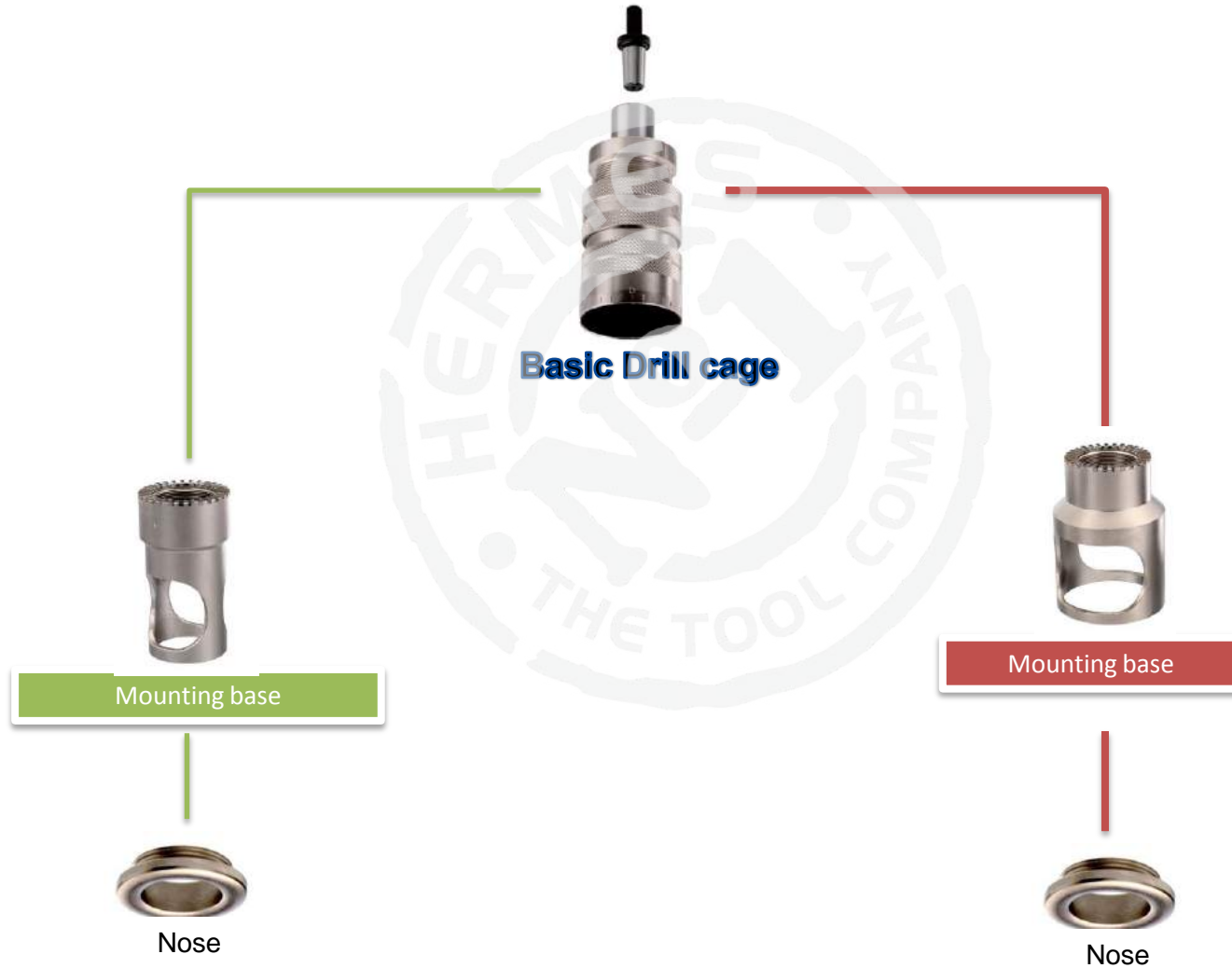
- ✓ Detachable spindle adaptor provides alternative methods for use:
  - ✓ With 3 jaw chuck
  - ✓ Or mounting direct onto the machine spindle. (this method increases level of concentricity while reducing length and weight of the drill tool assembly) => **Better performance and less operator fatigue**
  - ✓ Microstop depth adjustment (1 scale division = 0,025 mm )
- ✓ Microstop depth secured by locknut with seal allowing an easy loosening of the locknut without damage the drill cage



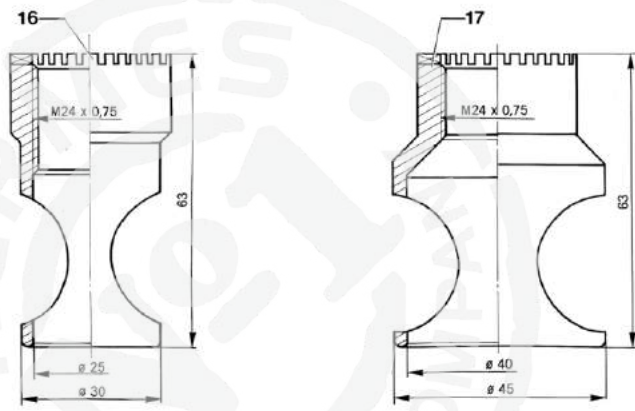
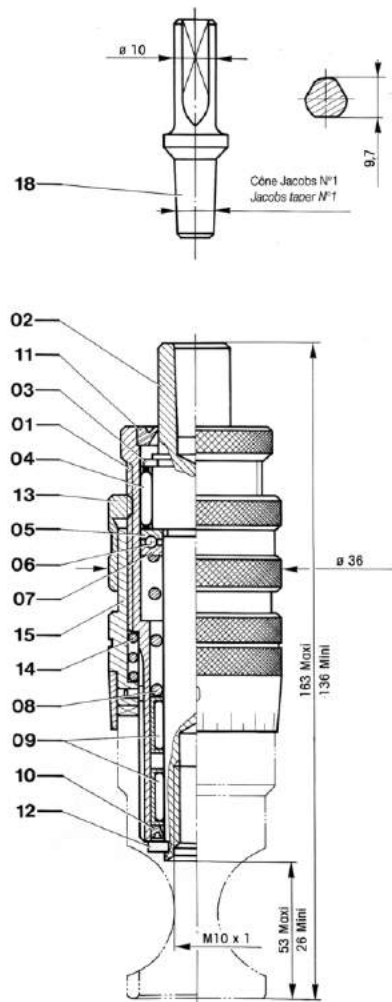
RB 406



# RB 406—Mounting base configuration



# RB 406–Dimensional Drawings



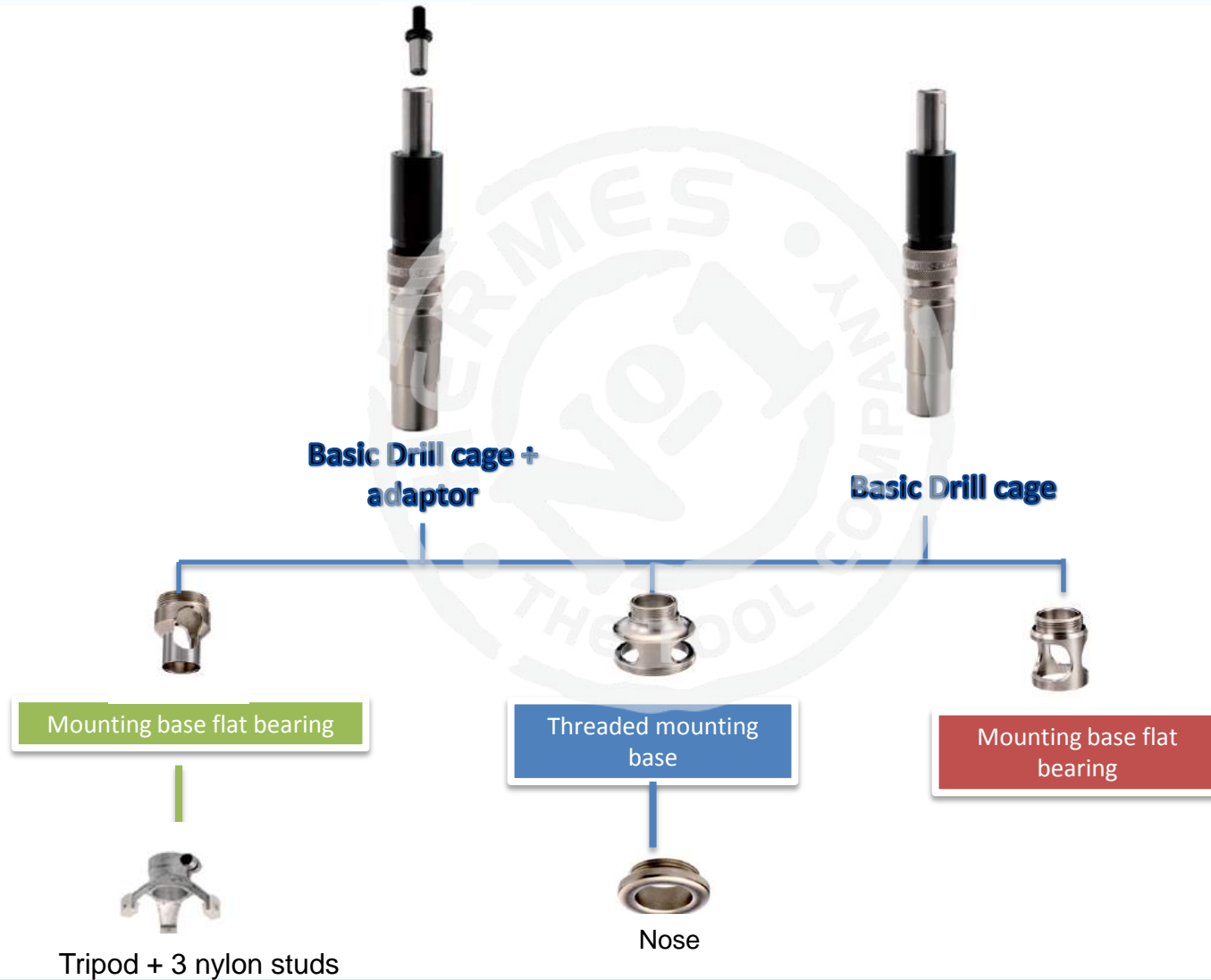
## RB 356 HP: Benefits

- ✓ Detachable spindle adaptor provides alternative methods for use:
  - ✓ With 3 jaw chuck
  - ✓ Or mounting direct onto the machine spindle. (this method increases level of concentricity while reducing length and weight of the drill tool assembly) => **Better performance and less operator fatigue**
  - ✓ Microstop depth adjustment (1 scale division = 0,025 mm )
- ✓ Microstop depth secured by locknut with seal allowing an easy loosening of the locknut without damage the drill cage

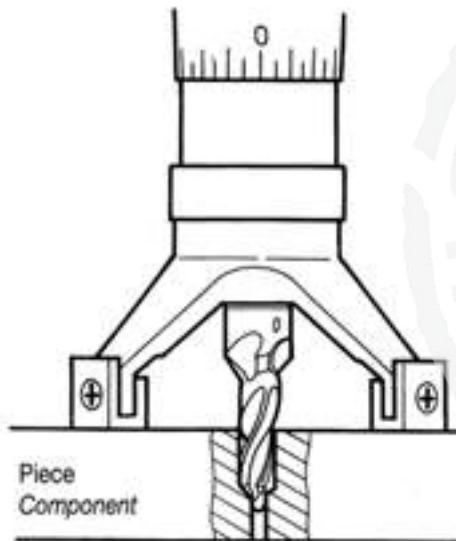


RB 356 HP 21

# RB 356 HP –Mounting base configuration

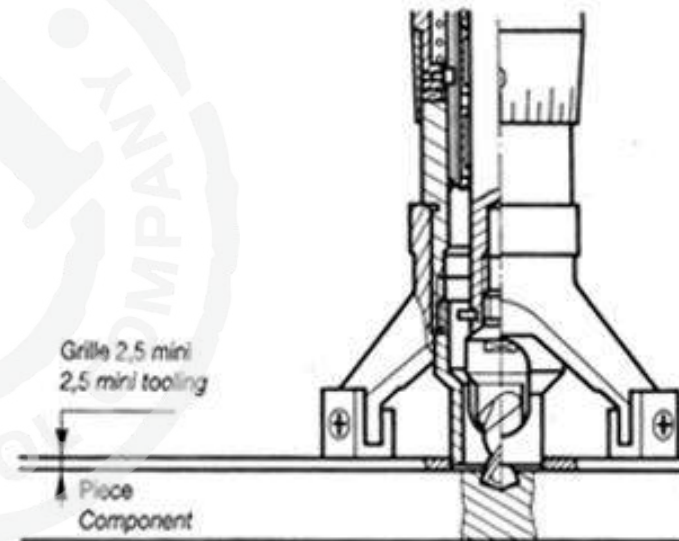


## Reaming + countersinking application

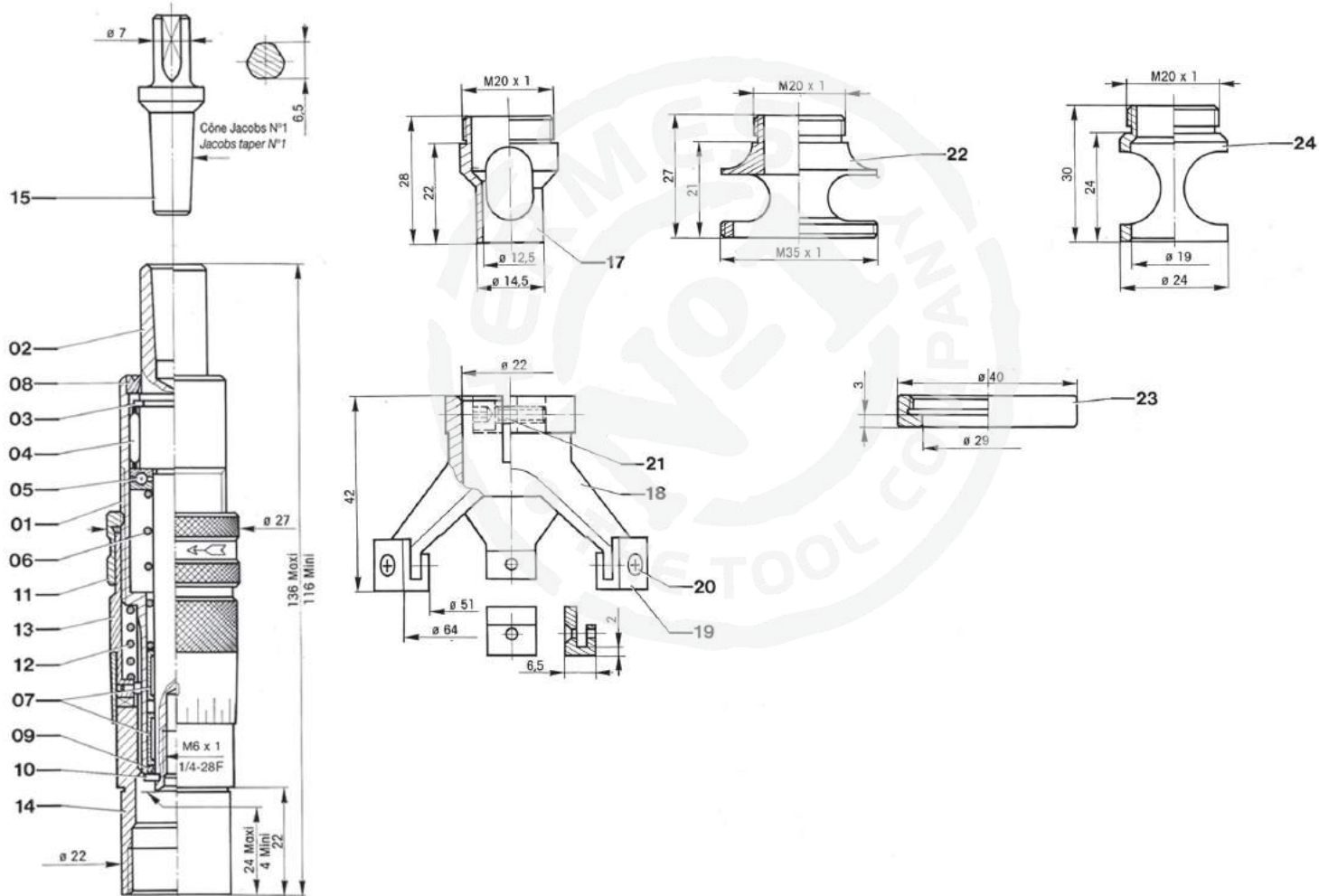


The tripod is used with cutter RB 022. Positioning of the cutter with pilot into the pilot hole

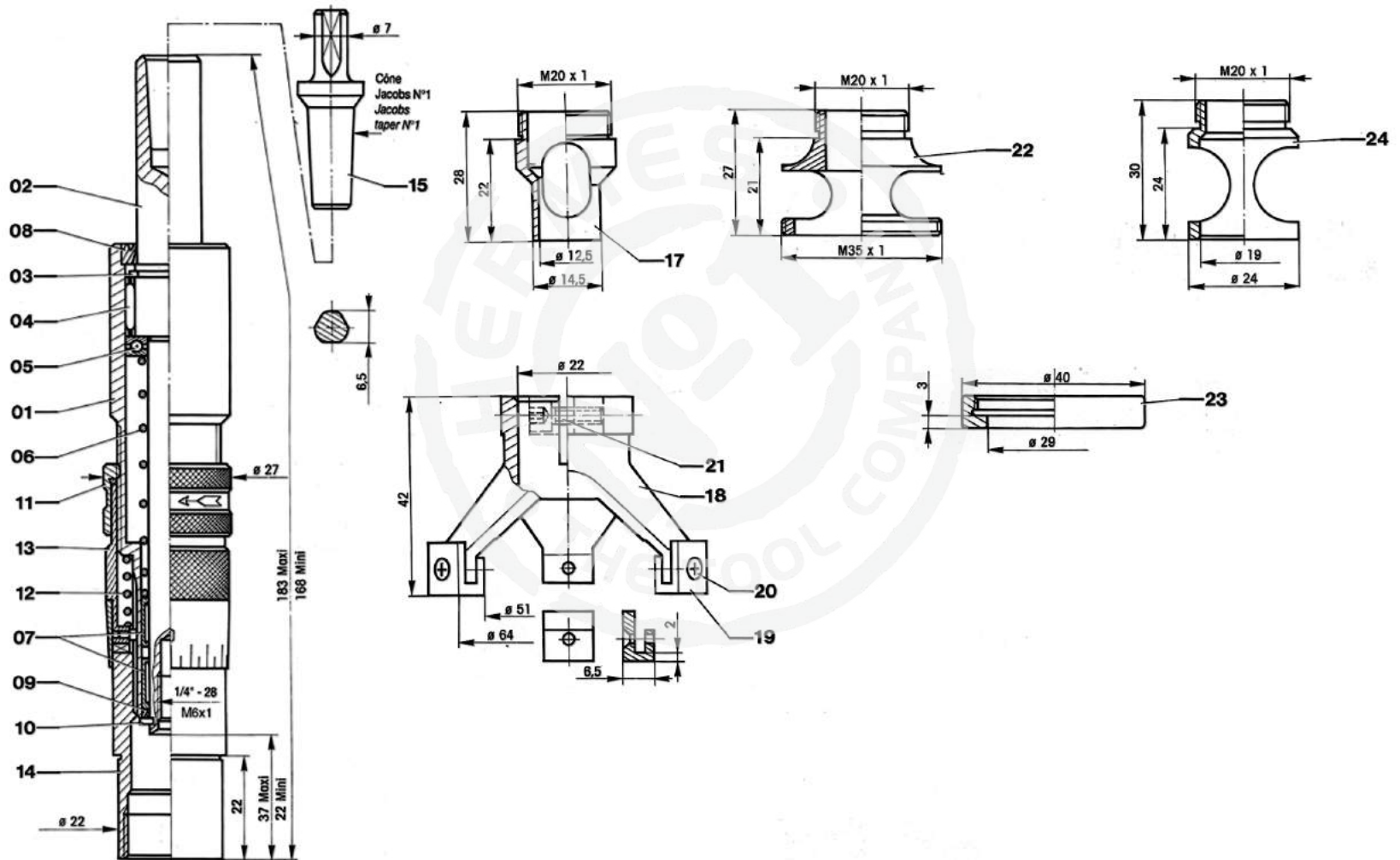
## Drilling + countersinking application

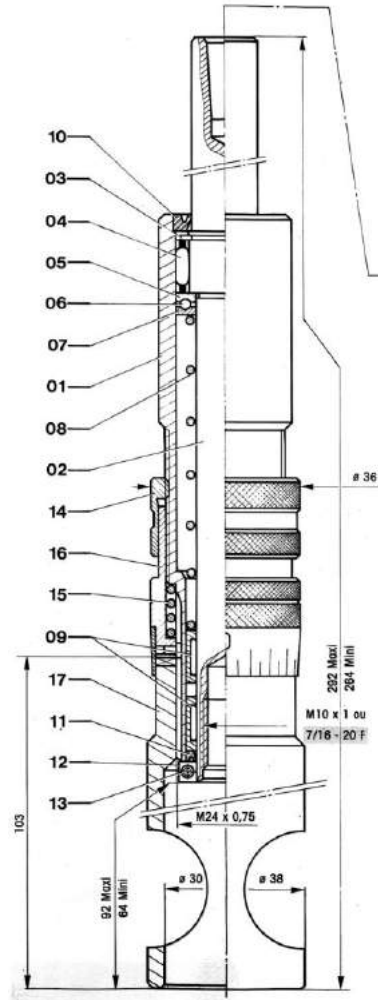


The mounting base is commonly used with strip templates. The tripod ensures **maximum stability**. Can be used with cutter type RB 018



# RB 356 HP 38 – Dimensional Drawings









RB 356 HP 21










RB 156



RB 406

Appareil à fraiser Microstop cage	Ø Queue Shank dia.	Attachement outil Cutter thread	Course Stroke	Ø Ext. Maxi	Longue ur totale / Total length		Poids Weight
					Mini	Maxi	
RB 156	Ø 4,8 mm - .188" dia	M 6 X 1	3,5 mm - .14"	Ø 25 mm - 1" dia	51 mm - 2"	55 mm - 2.16"	75 g.
RB 206	Ø 6 mm - .236" dia	M 6 X 1	6 mm - .236"	Ø 21 mm - .826" dia	95 mm - 3.74"	101 mm - 3.97"	110 - 120 g.
RBI 206	Ø 6 mm - .236" dia	1/4" - 28 F	6 mm - .236"	Ø 21 mm - .826" dia	95 mm - 3.74"	101 mm - 3.97"	110 - 120 g.
RB 256	Ø 6 mm - .236" dia	M 6 X 1	7,5 mm - .3"	Ø 28 mm - 1.1" dia	91 mm - 3.58"	98 mm - 3.85"	165 - 175 g.
RBI 256	Ø 6 mm - .236" dia	1/4" - 28 F	7,5 mm - .3"	Ø 28 mm - 1.1" dia	91 mm - 3.58"	98 mm - 3.85"	165 - 175 g.
RB 257	Ø 6 mm - .236" dia	M 6 X 1	6 mm - .236"	Ø 29 mm - 1.141" dia	88 mm - 3.46"	92 mm - 3.62"	155 - 165 g.
RB 258	Ø 6,35 mm - 1/4" dia	M 6 X 1	27 mm - 1.06"	Ø 29 mm - 1.141" dia	141 mm - 5.55"	156 mm - 6.14"	250 g.
RBI 258	Ø 6,35 mm - 1/4" dia	1/4" - 28 F	27 mm - 1.06"	Ø 29 mm - 1.141" dia	141 mm - 5.55"	156 mm - 6.14"	250 g.
RB 306	Ø 6 mm - .236" dia	M 8 X 1	7,5 mm - .3"	Ø 28 mm - 1.1" dia	91 mm - 3.58"	98 mm - 3.85"	175 - 185 g.
RB 307	Ø 6 mm - .236" dia	M 8 X 1	7 mm - .275"	Ø 29 mm - 1.141" dia	88 mm - 3.46"	98 mm - 3.62"	155 - 165 g.
RBI 307	Ø 6 mm - .236" dia	1/4" - 28 F	7 mm - .275"	Ø 29 mm - 1.141" dia	88 mm - 3.46"	98 mm - 3.62"	155 - 165 g.
RB 406		M 10 X 1	14 mm - .551"	Ø 36 mm - 1.417" dia	136 mm - 5.354"	163 mm - 6.417"	545 g.
RB 356 HP 21		M 6 X 1	21 mm - .826"	Ø 27 mm - 1.063" dia	116 mm - 4.567"	136 mm - 5.354"	300 g.
RB 356 HPI 21		1/4" - 28 F	21 mm - .826"	Ø 27 mm - 1.063" dia	116 mm - 4.567"	136 mm - 5.354"	300 g.
RB 356 HP 38		M 6 X 1	38 mm - 1.500"	Ø 27 mm - 1.063" dia	183 mm - 7.204"	168 mm - 6.614"	375 g.
RB 356 HPI 38		1/4" - 28 F	38 mm - 1.500"	Ø 27 mm - 1.063" dia	183 mm - 7.204"	168 mm - 6.614"	375 g.
RB 356 HP 58		M 10 X 1	58 mm - 2.283"	Ø 38 mm - 1.5" dia	264 mm - 10.4"	292 mm - 11.5"	970 g.
RB 356 HPI 58		7/16" - 20 F	58 mm - 2.283"	Ø 38 mm - 1.5" dia	264 mm - 10.4"	292 mm - 11.5"	970 g.

- ✓ Apex Tool group offers 3 type of cutter materials :
- ✓ HSS-E (High Speed Steel) cutters
- ✓ PCD (Poly-Crystalline Diamond) cutters
- ✓ Carbide cutters

For use with	Aluminium	Steel	Titanium	Composite
CARBURE CARBIDE				
HSS-E				
PCD*				

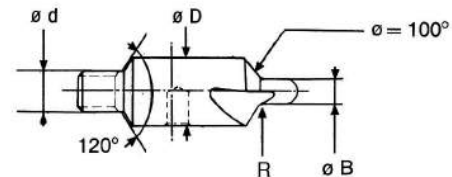


## HSS-E Cutters with Solid Pilot



Appareil à fraiser Chapitre A Microstop cage ref Chapter A	Fraise Cutter Ø D ± 0,1 mm	Pilote / Pilot Ø B		Rayon Radius R mm	Nombre de dents Numbers of flutes	Filetage Thread Ø d	Ref. Fraise Cutter ref. HSS-E
		-0,02 mm -0,05 mm	-.0007 in. -.0020 in.				
RB 156 RB 206 RB 256 RB 257 RB 258	10	2,38	.0937	0,2 - 0,4	3	M6 x 1	31206000
	10	3,17	.1248	0,2 - 0,4	3	M6 x 1	31206005
	10	3,50	.1377	0,2 - 0,4	3	M6 x 1	31206010
	10	3,60	.1417	0,2 - 0,4	3	M6 x 1	31206015
	10	3,97	.1563	0,2 - 0,4	3	M6 x 1	31206020
	10	4,00	.1574	0,2 - 0,4	3	M6 x 1	31206025
	10	4,15	.1633	0,2 - 0,4	3	M6 x 1	31206030
	10	4,76	.1874	0,4 - 0,75	3	M6 x 1	31206035
	10	4,80	.1890	0,4 - 0,75	3	M6 x 1	31206040
	10	5,60	.2204	0,4 - 0,75	3	M6 x 1	31206045
RB 306 RB 307	14	4,76	.1874	0,4 - 0,75	3	M8 x 1	31206100
	14	5,00	.1968	0,4 - 0,75	3	M8 x 1	31206105
	14	5,60	.2204	0,4 - 0,75	3	M8 x 1	31206110
	14	6,00	.2362	0,4 - 0,75	3	M8 x 1	31206120
	14	6,35	.2500	0,4 - 0,75	3	M8 x 1	31206125
	17	8,00	.3149	0,75 - 1,25	3	M8 x 1	31206200
	21	9,52	.3748	0,75 - 1,25	3	M8 x 1	31206300
	21	10,00	.3937	0,75 - 1,25	3	M8 x 1	31206305

Cône de centrage  
Centring cone

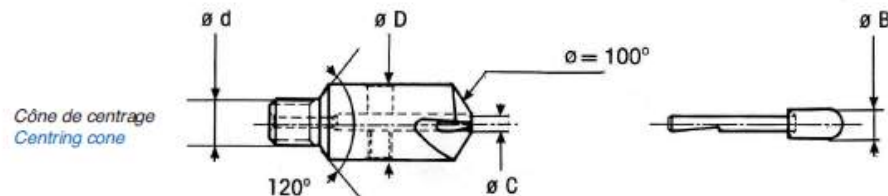


## HSS-E Cutters with Inserted Pilot



- ✓ Unique cutter geometry
- ✓ Excellent surface finish
- ✓ Avoid tearing of fibers

Appareil à fraiser Chapitre A Microstop cage ref. Chapter A	Fraise Cutter Ø D ± 0,1 mm	Pilote / Pilot Tête / Head Ø B		Queue Shank Ø C mm	Nombre de dents Numbers of flutes	Filetage Thread Ø d	Ref. Fraise + pilote Cutter + pilot ref. HSS-E	Ref. Fraise seule Cutter only ref. HSS-E
		-0,02 mm -0,05 mm	-0,007 in. -0,0020 in.					
	10	2,00	.0787	2	2	M6 x 1	30220005	30220001
	10	2,38	.0937	2	2	M6 x 1	30220010	30220001
RB 156	10	2,50	.0984	2	2	M6 x 1	30220015	30220001
RB 206	10	2,80	.1102	2,5	2	M6 x 1	30220110	30220101
RB 256	10	3,00	.1181	2,5	2	M6 x 1	30220115	30220101
RB 257	10	3,17	.1248	2,5	2	M6 x 1	30220120	30220101
RB 258	10	3,50	.1377	2,5	2	M6 x 1	30220215	30220101
	10	4,00	.1574	3,5	2	M6 x 1	30220310	30220301
	10	4,15	.1634	3,5	2	M6 x 1	30220315	30220301
	14	4,76	.1874	4	2	M8 x 1	30222015	30222001
	14	4,80	.1890	4	2	M8 x 1	30222025	30222001
	14	5,00	.1988	4	2	M8 x 1	30222030	30222001
	14	5,60	.2204	4	2	M8 x 1	30222040	30222001
RB 306	14	6,00	.2362	4	2	M8 x 1	30222050	30222001
RB 307	14	6,35	.2500	4	2	M8 x 1	30222055	30222001
	17	7,94	.3126	5	3	M8 x 1	30223035	30223001
	17	8,00	.3149	5	3	M8 x 1	30223040	30223001
	21	9,52	.3748	5	3	M8 x 1	30224045	30224001
	21	10,00	.3937	5	3	M8 x 1	30224050	30224001

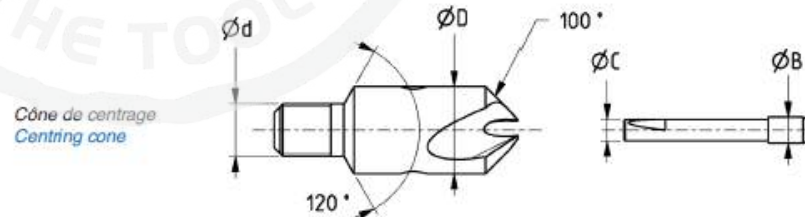


## HSS-E Cutters with Inserted Pilot



Appareil à fraiser Chapitre A Microstop cage ref Chapter A	Fraise Cutter Ø D ± 0,1 mm	Pilote / Pilot Tête / Head Ø B		Queue Shank Ø C mm	Nombre de dents Numbers of flutes	Filetage Thread Ø d	Ref. Fraise + pilote Cutter + pilot ref. HSS-E	Ref. Fraise seule Cutter only ref. HSS-E
		-0,02 mm -0,05 mm	-.0007 in. -.0020 in.					
RB 156	10	3,00	.1181	2,5	2	M6 x 1	30600010	30600001
RB 206	10	3,17	.1248	2,5	2	M6 x 1	30600015	30600001
RB 256	10	3,50	.1377	2,5	2	M6 x 1	30600020	30600001
RB 257	10	4,00	.1574	2,5	2	M6 x 1	30600025	30600001
RB 258	10	4,15	.1634	2,5	2	M6 x 1	30600030	30600001
RB 306	14	4,80	.1890	4	2	M8 x 1	30600110	30600101
RB 307	14	5,00	.1968	4	2	M8 x 1	30600115	30600101
	14	6,00	.2362	4	2	M8 x 1	30600120	30600101
	14	6,35	.2500	4	2	M8 x 1	30600125	30600101

- ✓ Unique cutter geometry
- ✓ Excellent surface finish
- ✓ Avoid tearing of fibers

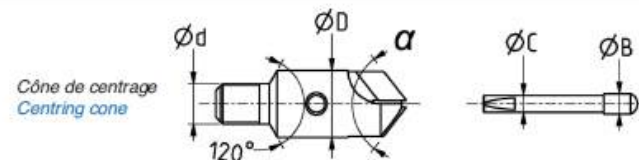


## PCD Cutters with Inserted Pilot



- ✓ Better surface finish
- ✓ Less effort for the operator
- ✓ Extended cutter life

Appareil à fraiser Chapitre A Microstop cage ref Chapter A	Fraise Cutter Ø D ± 0,1 mm	Tête / Head Ø B		Queue Shank Ø C mm	Nombre de dents Numbers of flutes	Filetage Thread Ø d	Angle de fraisure Countersinking angle α	Ref. Fraise + pilote Cutter + pilot ref. PCD*	Ref. Fraise Cutter ref. PCD*
		-0,02 mm -0,05 mm	-.0007 in. -.0020 in.						
	10	2,40	.0945	2	2	M6 x 1	100°	30500311	30500300
	10	3,00	.1181	2,5	2	M6 x 1	100°	30500055	30500000
RB 156	10	3,17	.1248	2,5	2	M6 x 1	100°	30500060	30500000
RB 206	10	3,50	.1377	2,5	2	M6 x 1	100°	30500065	30500000
RB 256	10	4,00	.1574	2,5	2	M6 x 1	100°	30500070	30500000
RB 257	10	4,00	.1574	2,5	2	M6 x 1	130°	30503060	30503060
RB 258	10	4,15	.1634	2,5	2	M6 x 1	100°	30500075	30500000
	14	-	-	2,5	2	M6 x 1	130°	-	02500591PT
	14	-	-	3,5	2	M6 x 1	130°	-	02500592PT
	14	-	-	2,5	2	M8 x 1	130°	-	02500593PT
	14	-	-	3,5	2	M8 x 1	130°	-	02500586PT
	14	4,10	.0614	4	2	M8 x 1	130°	30503166	30503160
	14	4,76	.1874	4	2	M8 x 1	100°	30500105	30500100
	14	4,80	.1890	4	2	M8 x 1	100°	30500110	30500100
	14	4,80	.1890	4	2	M8 x 1	130°	30502160	30503160
	14	5,00	.1968	4	2	M8 x 1	100°	30500115	30500100
RB 306	14	5,10	.2007	4	2	M8 x 1	130°	30503165	30503160
RB 307	14	5,60	.2204	4	2	M8 x 1	100°	30500120	30500100
	14	6,00	.2362	4	2	M8 x 1	100°	30500125	30500100
	14	6,35	.2500	4	2	M8 x 1	100°	30500130	30500100
	21	7,00	.2756	5	3	M8 x 1	100°	30500203	30500200
	21	7,94	.3126	5	3	M8 x 1	100°	30500205	30500200
	21	8,00	.3149	5	3	M8 x 1	100°	30500210	30500200
	21	9,52	.3748	5	3	M8 x 1	100°	30500215	30500200
	21	10,00	.3937	5	3	M8 x 1	100°	30500220	30500200
	21	-	-	5	3	M8 x 1	130°	-	30503260



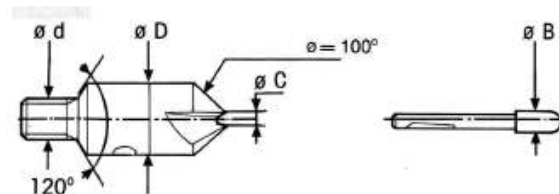
## Carbide Cutters with Pilot insert



- ✓ Unique cutter geometry
- ✓ Excellent surface finish
- ✓ Avoid tearing of fibers

Appareil à fraiser Chapitre A Microstop cage ref Chapter A	Fraise Cutter Ø D ± 0,1 mm	Pilote / Pilot Tête / Head Ø B		Queue Shank Ø C mm	Nombre de dents Numbers of flutes	Filetage Thread Ø d	Ref. Fraise + pilote Cutter + pilot ref. Carbure/Carbide	Ref. Fraise seule Cutter only ref. Carbure/Carbide
		-0,02 mm -0,05 mm	-.0007 in. -.0020 in.					
RB 156 RB 206 RB 256 RB 257 RB 258	10	2,00	.0787	2	3	M6 x 1	30320005	30320000
	10	2,38	.0937	2	3	M6 x 1	30320010	30320000
	10	2,50	.0984	2	3	M6 x 1	30320015	30320000
	10	2,80	.1102	2,5	3	M6 x 1	30320110	30320100
	10	3,00	.1181	2,5	3	M6 x 1	30320115	30320100
	10	3,17	.1248	2,5	3	M6 x 1	30320120	30320100
	10	3,50	.1377	2,5	3	M6 x 1	30320215	30320100
	10	4,00	.1574	3,5	3	M6 x 1	30320310	30320300
	10	4,15	.1634	3,5	3	M6 x 1	30320315	30320300
	RB 306 RB 307	14	4,76	.1874	4	3	M8 x 1	30322015
14		4,80	.1890	4	3	M8 x 1	30322025	30322000
14		5,00	.1968	4	3	M8 x 1	30322030	30322000
14		5,60	.2204	4	3	M8 x 1	30322040	30322000
14		6,00	.2362	4	3	M8 x 1	30322050	30322000
14		6,35	.2500	4	3	M8 x 1	30322055	30322000
17		7,94	.3126	5	3	M8 x 1	30323035	30323000
17		8,00	.3149	5	3	M8 x 1	30323040	30323000
21		9,52	.3748	5	2	M8 x 1	30324045	30324000
21		10,00	.3937	5	2	M8 x 1	30324050	30324000

Cône de centrage  
Centring cone



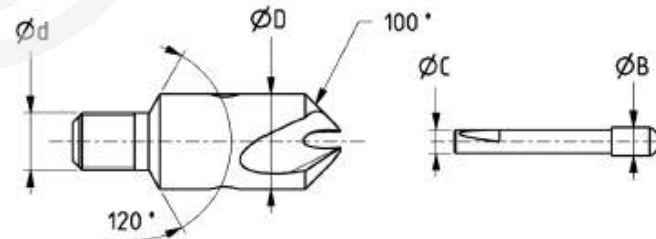
## Carbide Cutters with Pilot insert



- ✓ Unique cutter geometry
- ✓ Excellent surface finish
- ✓ Avoid tearing of fibers

Appareil à fraiser Chapitre A Microstop cage ref Chapter A	Fraise Cutter Ø D ± 0,1 mm	Pilote / Pilot		Queue Shank Ø C mm	Nombre de dents Numbers of flutes	Filetage Thread Ø d	Ref. Fraise + pilote Cutter + pilot ref. Carbure/Carbide	Ref. Fraise seule Cutter only ref. Carbure/Carbide
		Tête / Head Ø B						
		-0,02 mm -0,05 mm	-,0007 in. -,0020 in.					
RB 156	10	3,00	.1181	2,5	2	M6 x 1	30601010	30601001
RB 206	10	3,17	.1248	2,5	2	M6 x 1	30601015	30601001
RB 256	10	3,50	.1377	2,5	2	M6 x 1	30601020	30601001
RB 257	10	4,00	.1574	2,5	2	M6 x 1	30601025	30601001
RB 258	10	4,15	.1634	2,5	2	M6 x 1	30601030	30601001
	14	4,80	.1890	4	2	M8 x 1	30601110	30601101
RB 306	14	5,00	.1968	4	2	M8 x 1	30601115	30601101
RB 307	14	6,00	.2362	4	2	M8 x 1	30601120	30601101
	14	6,35	.2500	4	2	M8 x 1	30601125	30601101

Cône de centrage  
Centring cone



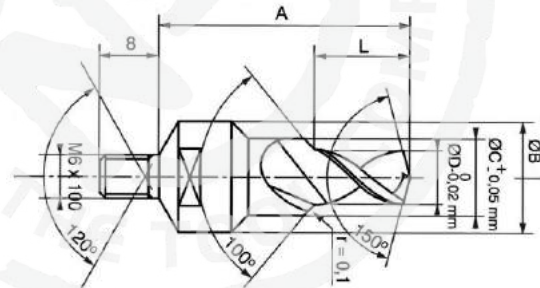


## RB 018 – Drill and countersink cutter



For use with	Aluminium	Steel	Titanium	Composite
CARBURE CARBIDE				
HSS-E				
PCD*				

- ✓ Dilling and countersinking in one operation



✓ *To be used with RB 356 HP range*



RB 356 HP 21



RB 356 HP 38



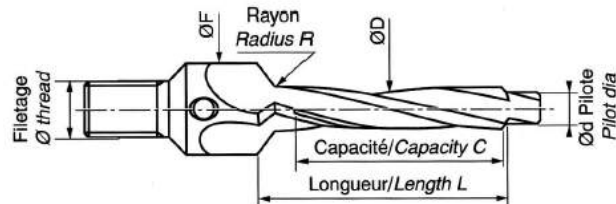
RB 356 HP 58

## RB 022 – Drill, Ream and countersink cutter



Appareil à fraiser Chapitre A Microstop cage ref Chapter A	Filetage Thread Ø d	Ø outil / Reamer dia Ø D		L Maxi		Dia corps maxi Maxi body dia F		Cap. perçage Drill capacity C maxi	
		mm	Inch	mm	Inch	mm	Inch	mm	Inch
RB 356 HP 21	M6 x 1	3,20 - 4,20	0.125 - 0.165	20	.787	10	.393	12	1/2
RB 356 HP 38	M6 x 1	3,20 - 4,21	0.125 - 0.165	36	1.417	10	.393	25	1
RB 356 HP 21	M6 x 1	4,30 - 6,35	0.169 - 1/4	20	.787	14	.551	12	1/2
RB 356 HP 38	M6 x 1	4,30 - 6,35	0.169 - 1/4	36	1.417	14	.551	25	1
RB 356 HP 58	M10 x 1	6,35 - 8,00	1/4 - 0.315	40	1.574	17	.669	30	1.181
RB 356 HP 58	M10 x 1	8,00 - 10,00	0.315 - 0.393	40	1.574	21	.826	30	1.181

- ✓ One shot operation
- ✓ Non cutting rear for a perfect concentricity of the countersink
- ✓ No elongation of the reamed holes



*To be used with RB 356 HP range*



RB 356 HP 21



RB 356 HP 38



RB 356 HP 58

