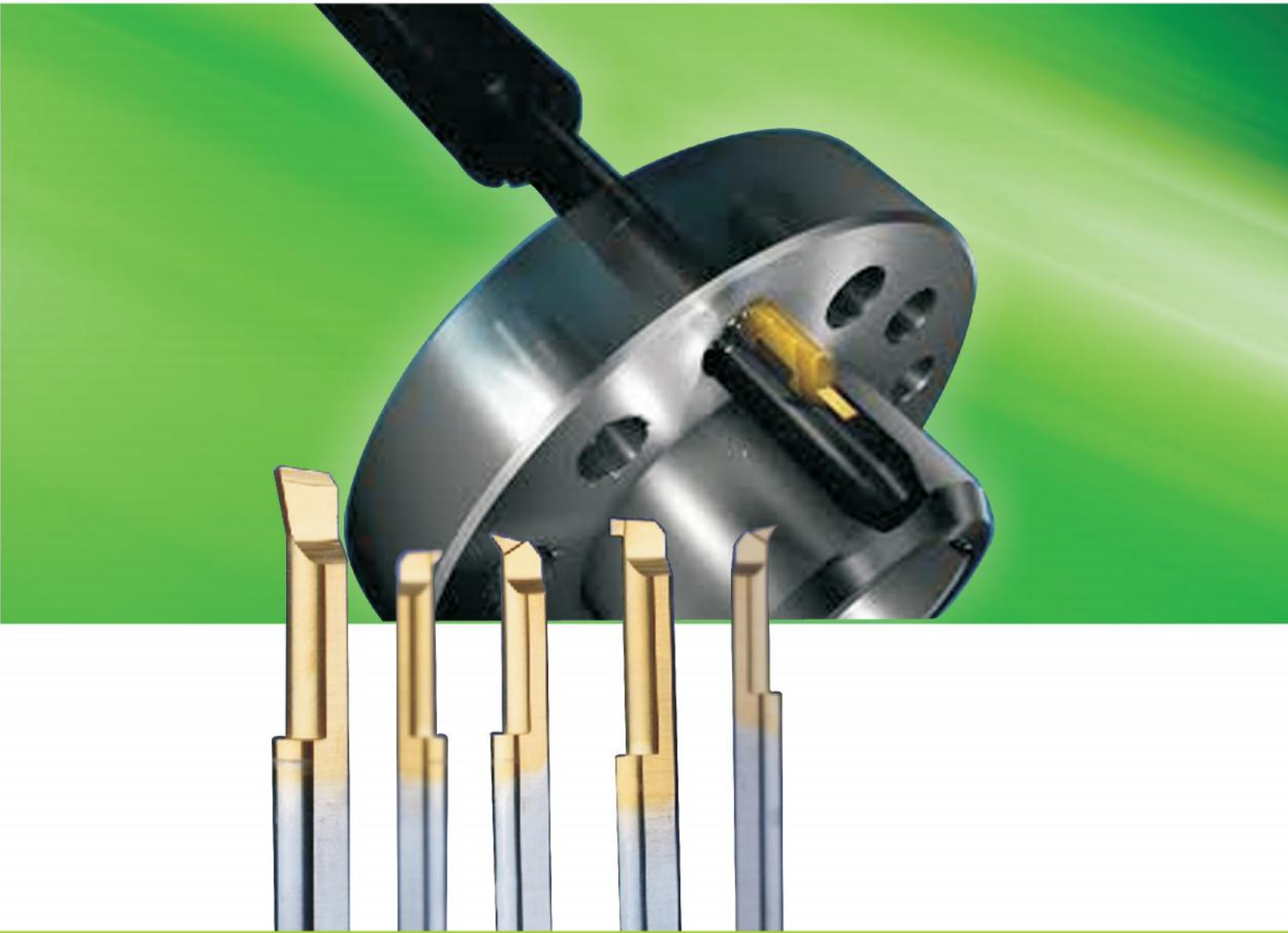


# Micro Turning

For internal small part machining

For internal turning, grooving, and  
threading of tiny bores down to 2.0mm



## Advantages

- These tools are made for the high-tech, medical and small component industry.
- These tools in different outer diameters adapted for different machine types. The assortment also consists of shank holders for internal machining.
- These tools locates precisely into the boring bar thanks to a locating pin which locks the insert into correct orientation
- All grooving inserts produce grooves with flat bottom and sharp coner radii.

Ningbo Sandhog Precision Tools Manufacturing Co., Ltd.  
Ningbo Sanhan Alloy Material Co., Ltd.  
Add: Room 1-1, No. 324, Ningchuan Road, Jiangdong District,  
Ningbo City, Zhejiang 315040 China.  
Tel: 0086-574-87370415 Fax: 0086-574-87370421  
E-mail: postmaster@sandhogtools.com.cn  
<http://www.sandhogtools.com>

**SANDHOG®**  
CUTTING TOOLS 刀具 具 具 具



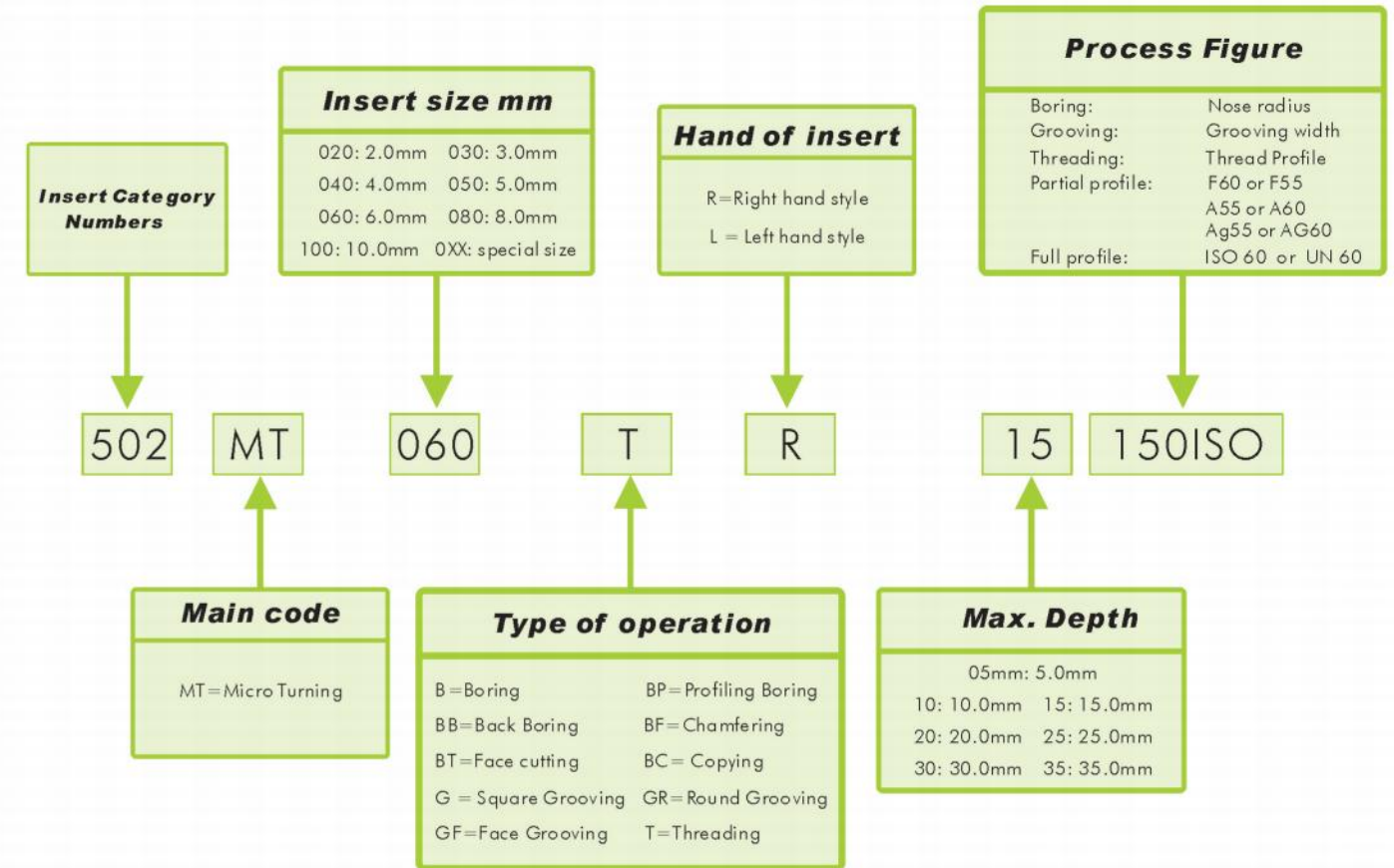
# Micro Turning Tools

## INDEX

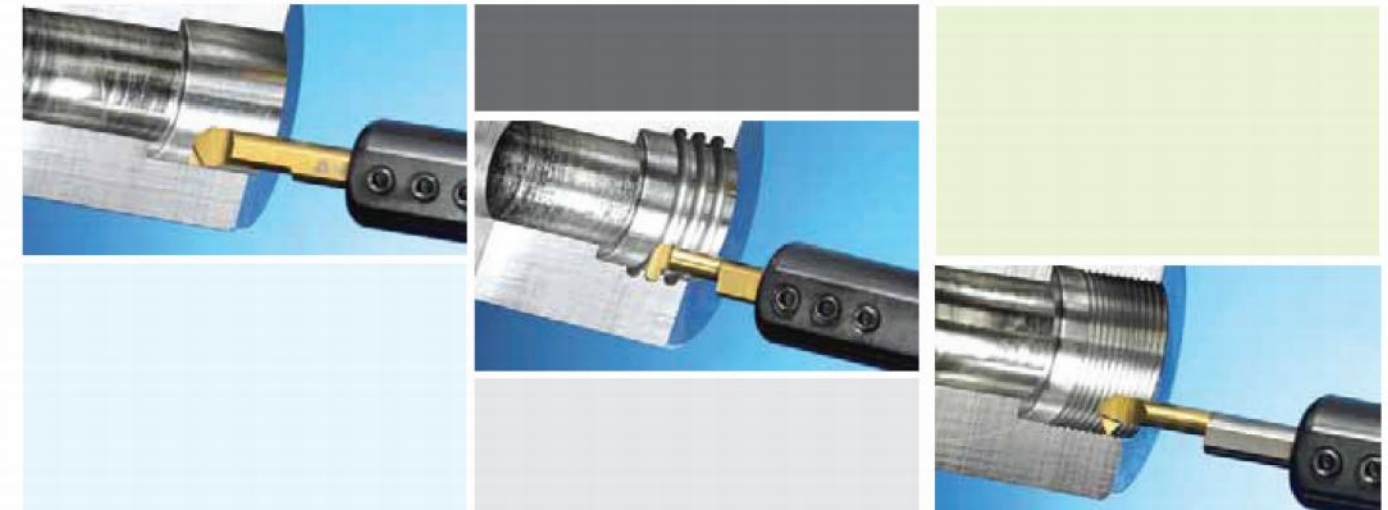


- |   |   |
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## Code Key for Micro Turning Tools

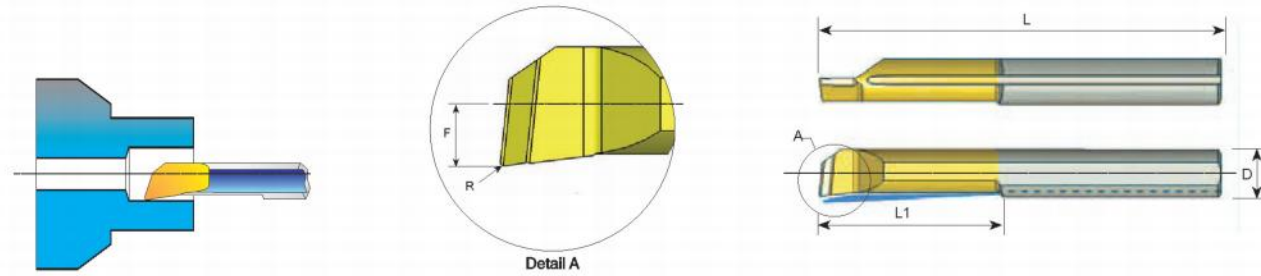


## Machining Types



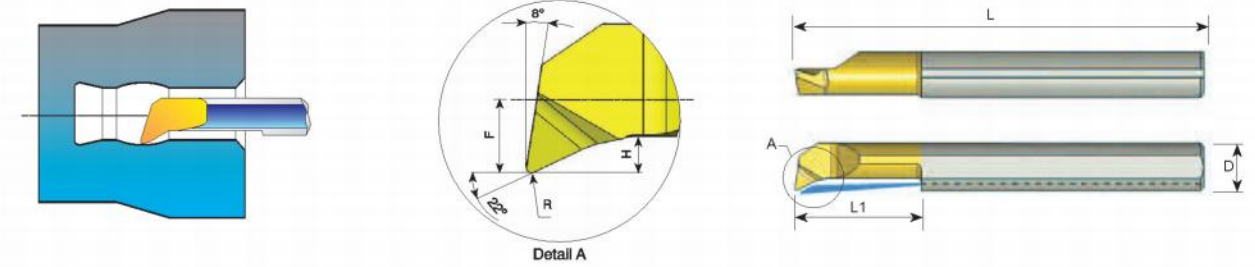


### BORING and PROFILING 502 Type



Designation	F	Dmin	D	L1	L	R
502.MT010BR/L04-R0.05	0.50	1.0	3.0	4	30	0.05
502.MT015BR/L06-R0.10	0.70	1.5	3.0	6	30	0.10
502.MT020BR/L05-R0.15	0.80	2.1	3.0	5	30	0.15
502.MT020BR/L10-R0.15				10	35	
502.MT030BR/L10-R0.05	1.30	3.1	3.0	10	35	0.05
502.MT030BR/L15-R0.05				15	45	
502.MT030BR/L10-R0.20				10	35	0.20
502.MT030BR/L15-R0.20				15	45	
502.MT040BR/L10-R0.20	1.70	4.1	4.0	10	35	0.20
502.MT040BR/L15-R0.20				15	45	
502.MT040BR/L20-R0.20				20	50	
502.MT050BR/L10-R0.20	2.10	5.1	5.0	10	40	0.20
502.MT050BR/L15-R0.20				15	45	
502.MT050BR/L20-R0.20				20	50	
502.MT060BR/L10-R0.20	2.80	6.1	6.0	10	40	0.20
502.MT060BR/L15-R0.20				15	45	
502.MT060BR/L20-R0.20				20	50	
502.MT080BR/L10-R0.20	3.80	8.1	8.0	10	45	0.20
502.MT080BR/L20-R0.20				20	60	
502.MT080BR/L30-R0.20				30	70	
502.MT100BR/L15-R0.20	4.80	10.1	10.0	15	60	0.20
502.MT100BR/L25-R0.20				25	70	
502.MT100BR/L35-R0.20				35	80	

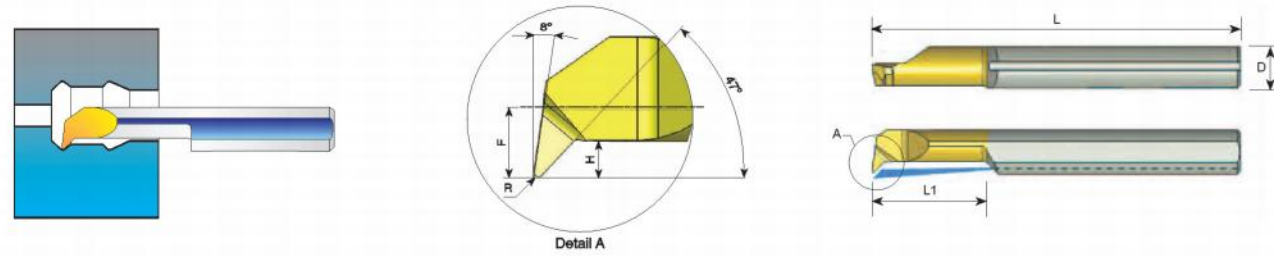
### BORING and PROFILING 502 Type



Designation	F	Dmin	D	L1	L	R	H
502.MT010BPR/L04-R0.05	0.50	1.0	3.0	4	30	0.05	0.20
502.MT015BPR/L06-R0.10	0.70	1.5	3.0	6	30	0.10	0.3
502.MT020BPR/L05-R0.15	0.80	2.1	3.0	5	30	0.15	0.50
502.MT020BPR/L10-R0.15				10	35		
502.MT030BPR/L10-R0.05	1.30	3.1	3.0	10	35	0.05	0.70
502.MT030BPR/L15-R0.05				15	45		
502.MT030BPR/L10-R0.20				10	35	0.20	0.70
502.MT030BPR/L15-R0.20				15	45		
502.MT040BPR/L10-R0.20	1.70	4.1	4.0	10	35	0.20	0.80
502.MT040BPR/L15-R0.20				15	45		
502.MT040BPR/L20-R0.20				20	50		
502.MT050BPR/L10-R0.20	2.1	5.1	5.0	10	40	0.20	1.20
502.MT050BPR/L15-R0.20				15	45		
502.MT050BPR/L20-R0.20				20	50		
502.MT060BPR/L10-R0.20	2.80	6.1	6.0	10	40	0.20	1.40
502.MT060BPR/L15-R0.20				15	45		
502.MT060BPR/L20-R0.20				20	50		
502.MT080BPR/L10-R0.20	3.80	8.1	8.0	10	45	0.20	1.60
502.MT080BPR/L20-R0.20				20	60		
502.MT080BPR/L30-R0.20				30	70		
502.MT100BPR/L15-R0.20	4.80	10.1	10.0	15	60	0.20	2.00
502.MT100BPR/L25-R0.20				25	70		
502.MT100BPR/L35-R0.20				35	80		

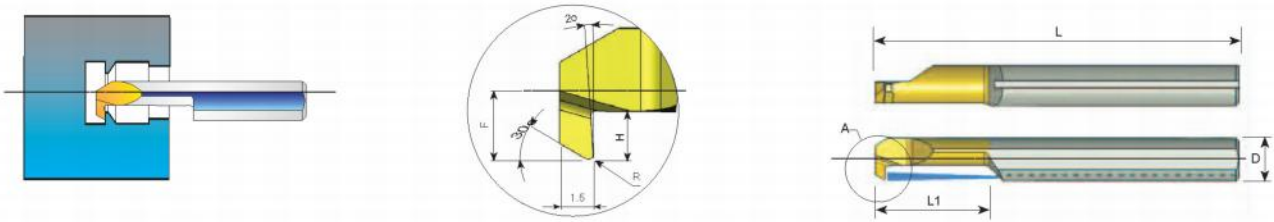


### BORING and PROFILING 502 Type



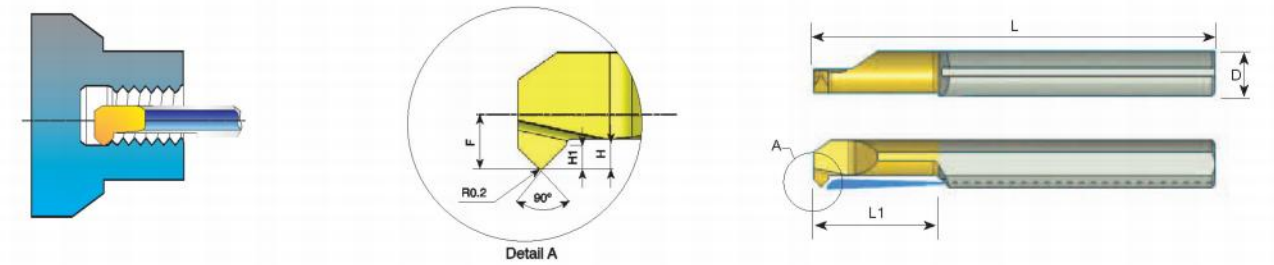
Designation	F	Dmin	D	L1	L	R	H
502.MT040BCR/L 10-R0.20	1.80	4.1	4.0	10	35	0.20	0.80
502.MT040BCR/L 15-R0.20				15	45		
502.MT040BCR/L 20-R0.20				20	50		
502.MT050BCR/L 10-R0.20	2.30	5.1	5.0	10	40	0.20	1.00
502.MT050BCR/L 15-R0.20				15	45		
502.MT050BCR/L 20-R0.20				20	50		
502.MT060BCR/L 10-R0.20	2.80	6.1	6.0	10	40	0.20	1.40
502.MT060BCR/L 15-R0.20				15	45		
502.MT060BCR/L 20-R0.20				20	50		
502.MT080BCR/L 20-R0.20	3.80	8.1	8.0	20	60	0.20	1.60
502.MT080BCR/L 30-R0.20				30	70		

### BORING and PROFILING 502 Type



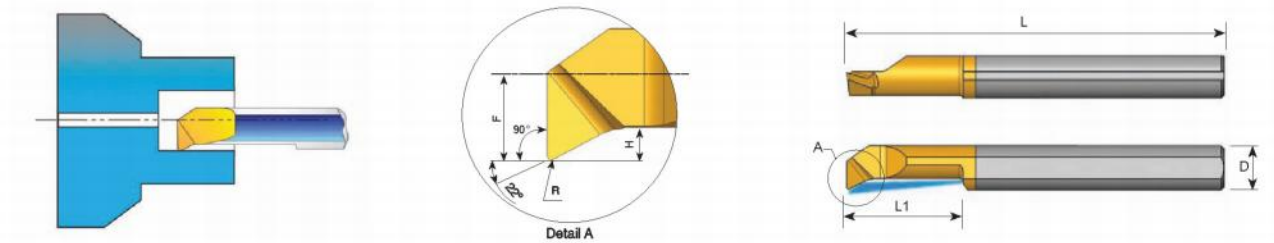
Designation	F	Dmin	D	L1	L	R	H
502.MT030BTR/L 10-R0.10	1.30	3.1	3.0	10	35	0.10	0.70
502.MT030BTR/L 15-R0.10				15	45		
502.MT040BTR/L 10-R0.15	1.60	4.1	4.0	10	35	0.15	0.80
502.MT040BTR/L 15-R0.15				15	45		
502.MT040BTR/L 20-R0.15				20	50		
502.MT050BTR/L 10-R0.20	2.20	5.1	5.0	10	40	0.20	1.00
502.MT050BTR/L 15-R0.20				15	45		
502.MT050BTR/L 20-R0.20				20	50		
502.MT060BTR/L 10-R0.20	2.80	6.1	6.0	10	40	0.20	1.80
502.MT060BTR/L 15-R0.20				15	45		
502.MT060BTR/L 20-R0.20				20	50		

### BORING and PROFILING 502 Type



Designation	F	Dmin	D	L1	L	R	H	H1
502.MT030BFR/L 10-R0.20	1.30	3.1	3.0	10	35	0.20	0.70	0.30
502.MT030BFR/L 15-R0.20				15	45			
502.MT040BFR/L 10-R0.20	1.70	4.1	4.0	10	35	0.20	0.80	0.40
502.MT040BFR/L 15-R0.20				15	45			
502.MT040BFR/L 20-R0.20				20	50			
502.MT050BFR/L 10-R0.20	2.10	5.1	5.0	10	40	0.20	1.20	0.70
502.MT050BFR/L 15-R0.20				15	45			
502.MT050BFR/L 20-R0.20				20	50			
502.MT060BFR/L 10-R0.20	2.80	6.1	6.0	10	40	0.20	1.40	0.70
502.MT060BFR/L 15-R0.20				15	45			
502.MT060BFR/L 20-R0.20				20	50			

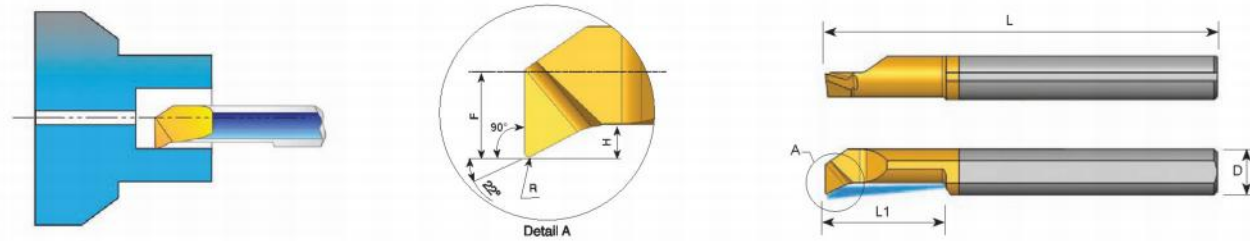
### BORING and PROFILING 502 Type



Designation	F	Dmin	D	L1	L	R	H
502.MT030BTR/L 10-R0.05	1.30	3.1	3.0	10	35	0.05	0.40
502.MT030BTR/L 15-R0.05				15	45		
502.MT040BTR/L 10-R0.10	1.70	4.1	4.0	10	35	0.10	0.50
502.MT040BTR/L 15-R0.10				15	45		
502.MT040BTR/L 20-R0.10				20	50		
502.MT050BTR/L 10-R0.15	2.10	5.1	5.0	10	40	0.15	0.70
502.MT050BTR/L 15-R0.15				15	45		
502.MT050BTR/L 20-R0.15				20	50		

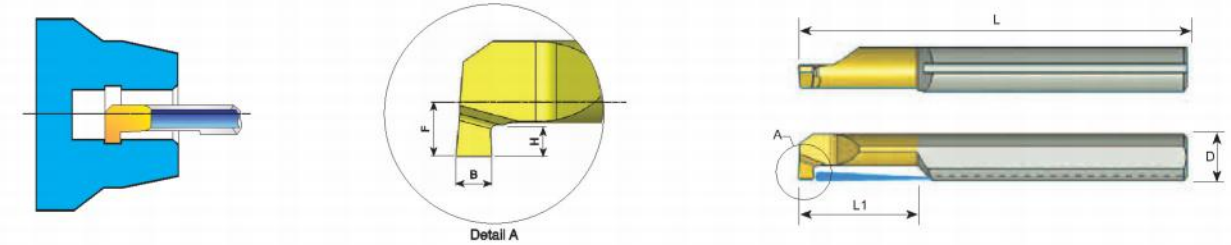


### BORING and PROFILING 502 Type



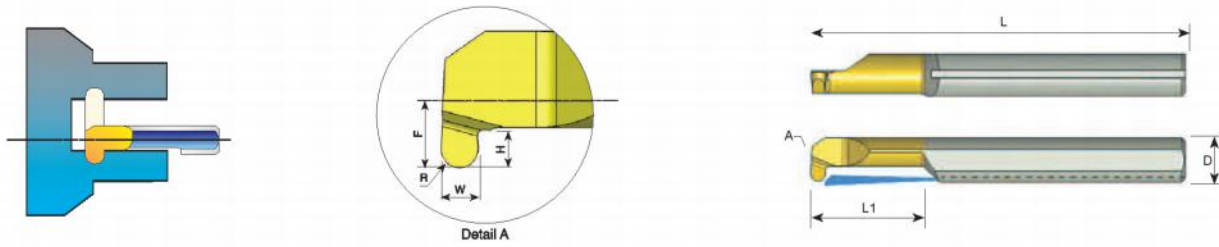
Designation	F	Dmin	D	L1	L	R	H
502.MT060BTR/L 10-R0.15	2.80	6.1	6.0	10	40	0.15	0.90
502.MT060BTR/L 15-R0.15				15	45		
502.MT060BTR/L 20-R0.15				20	50		
502.MT080BTR/L 10-R0.20	3.80	8.1	8.0	10	45	0.20	1.10
502.MT080BTR/L 20-R0.20				20	60		
502.MT080BTR/L 30-R0.20				30	70		
502.MT100BTR/L 15-R0.20	4.80	10.1	10.0	15	60	0.20	1.30
502.MT100BTR/L 25-R0.20				25	70		
502.MT100BTR/L 35-R0.20				35	80		

### GROOVING 502 Type



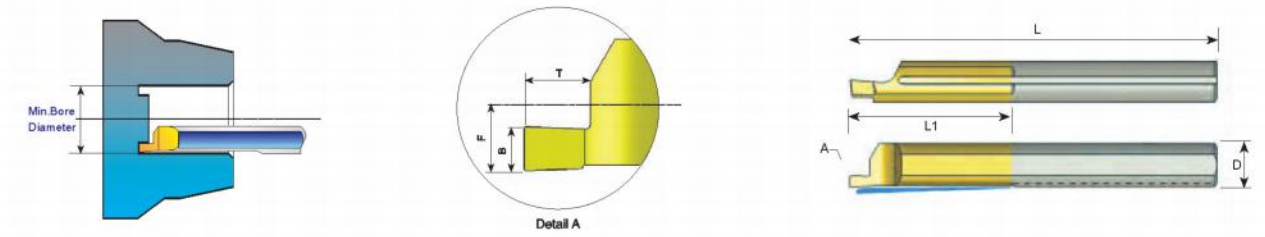
Designation	F	Dmin	D	L1	L	R	H
502.MT030GR/L 10-B100	1.40	3.2	3.0	10	35	1.00	0.80
502.MT030GR/L 15-B100				15	45		
502.MT030GR/L 10-B150				10	35		
502.MT030GR/L 15-B150	1.90	4.2	4.0	15	45	1.50	0.80
502.MT040GR/L 10-B100				10	35		
502.MT040GR/L 20-B100				20	50		
502.MT040GR/L 10-B150	2.30	5.2	5.0	10	35	1.00	1.40
502.MT040GR/L 20-B100				20	50		
502.MT040GR/L 10-B150				10	35		
502.MT040GR/L 20-B150	2.90	6.2	6.0	20	50	1.50	1.40
502.MT040GR/L 10-B200				10	35		
502.MT040GR/L 20-B200				20	50		
502.MT050GR/L 10-B100	1.90	4.2	4.0	10	35	1.50	1.40
502.MT050GR/L 20-B100				20	50		
502.MT050GR/L 10-B150				10	35		
502.MT050GR/L 20-B150	2.30	5.2	5.0	20	50	2.00	1.50
502.MT050GR/L 10-B200				10	40		
502.MT050GR/L 20-B200				20	50		
502.MT060GR/L 10-B100	2.90	6.2	6.0	10	40	1.00	1.80
502.MT060GR/L 20-B100				20	50		
502.MT060GR/L 10-B150				10	40		
502.MT060GR/L 20-B150	3.90	8.2	8.0	20	50	1.50	1.80
502.MT060GR/L 10-B200				10	40		
502.MT060GR/L 20-B200				20	50		
502.MT060GR/L 10-B250	4.90	10.2	10.0	10	40	2.50	2.00
502.MT060GR/L 20-B250				20	50		
502.MT080GR/L 20-B150				20	60		
502.MT080GR/L 20-B200	3.90	8.2	8.0	20	60	2.00	2.50
502.MT080GR/L 20-B250				20	60		
502.MT080GR/L 20-B300				20	60		
502.MT100GR/L 20-B150	4.90	10.2	10.0	25	70	1.50	2.50
502.MT100GR/L 20-B200				25	70		
502.MT100GR/L 20-B250				25	70		
502.MT100GR/L 20-B300						3.00	3.50

### GROOVING 502 Type



Designation	F	Dmin	D	L1	L	W	H
502.MT030GRR/L 10-W080	1.40	3.2	3.0	10	35	0.80	0.80
502.MT030GRR/L 15-W080				15	45		
502.MT040GRR/L 10-W100	1.90	4.2	4.0	10	35	1.00	1.00
502.MT040GRR/L 20-W100				20	50		
502.MT040GRR/L 10-W150	2.30	5.2	5.0	10	35	1.50	1.00
502.MT040GRR/L 20-W150				20	50		
502.MT050GRR/L 10-W100	2.90	6.2	6.0	10	40	1.00	1.00
502.MT050GRR/L 20-W100				20	50		
502.MT050GRR/L 10-W150	3.90	8.2	8.0	10	40	1.50	2.30
502.MT050GRR/L 20-W150				20	50		
502.MT050GRR/L 10-W200	4.90	10.2	10.0	10	40	2.00	2.80
502.MT050GRR/L 20-W200				20	50		
502.MT060GRR/L 10-W100	4.90	10.2	10.0	10	40	2.00	2.80
502.MT060GRR/L 20-W100				20	50		
502.MT060GRR/L 10-W150	4.90	10.2	10.0	10	40	2.00	2.80
502.MT060GRR/L 20-W150				20	50		
502.MT060GRR/L 10-W200	4.90	10.2	10.0	10	40	2.00	2.80
502.MT060GRR/L 20-W200				20	50		
502.MT080GRR/L 20-W100	3.90	8.2	8.0	20	60	1.00	2.30
502.MT080GRR/L 20-W150				1.50			
502.MT080GRR/L 20-W200	4.90	10.2	10.0	20	70	2.00	2.80
502.MT100GRR/L 20-W100				1.00			
502.MT100GRR/L 20-W150	4.90	10.2	10.0	20	70	1.50	2.80
502.MT100GRR/L 20-W200				2.00			

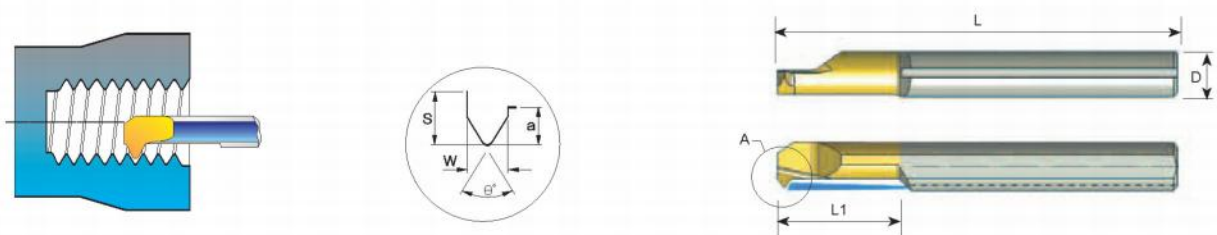
### GROOVING 502 Type



Designation	F	Dmin	D	L1	L	B	H
502.MT040GFR/L 15-B075	1.8	6.0	4.0	15	45	0.75	1.20
502.MT040GFR/L 15-B100						1.00	1.50
502.MT040GFR/L 15-B150	2.3	7.0	5.0	20	50	1.50	2.00
502.MT050GFR/L 20-B075						0.75	1.20
502.MT050GFR/L 20-B100	2.9	8.5	6.0	20	50	1.00	1.50
502.MT050GFR/L 20-B150						1.50	2.00
502.MT060GFR/L 20-B100	3.90	10.4	8.0	20	60	1.00	2.00
502.MT060GFR/L 20-B150						1.50	2.50
502.MT060GFR/L 20-B200	4.90	12.4	10.0	20	70	2.00	3.00
502.MT080GFR/L 20-B150						1.50	2.00
502.MT080GFR/L 20-B200	4.90	12.4	10.0	20	70	2.00	2.50
502.MT080GFR/L 20-B250						2.50	3.00
502.MT100GFR/L 20-B200	4.90	12.4	10.0	20	70	2.00	2.50
502.MT100GFR/L 20-B250						2.50	3.00
502.MT100GFR/L 20-B300	4.90	12.4	10.0	20	70	3.00	3.50
502.MT100GFR/L 20-B350						3.50	4.00
502.MT100GFR/L 20-B400	4.90	12.4	10.0	20	70	4.00	4.50
502.MT100GFR/L 20-B450						4.50	5.00

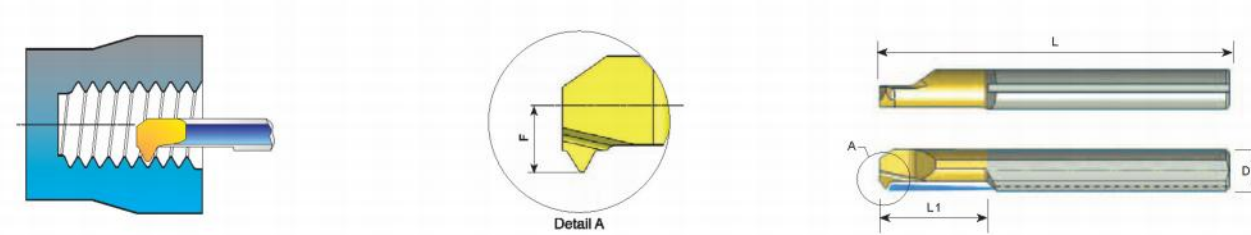


### THREADING 502 Type



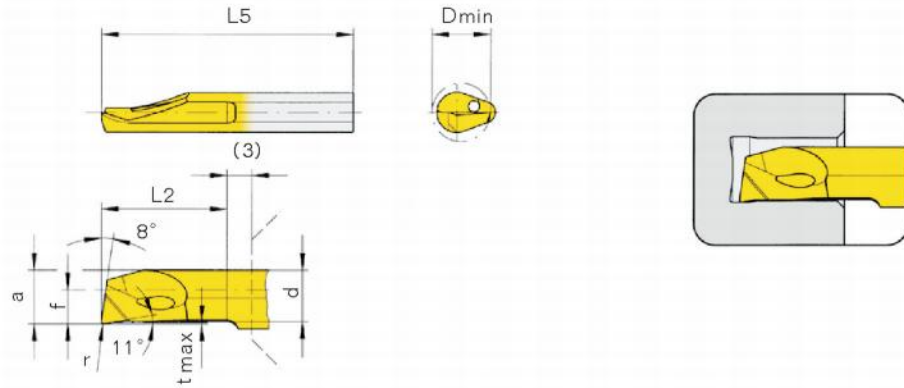
Designation	F	Dmin	D	L1	L	Θ	W	A	Pitch Range	
									Mm	TPI
502.MT020TR/L 10-F60	1.00	2.1	3.0	10	35	60°	1.2	1.2	0.25-1.0	72-24
502.MT020TR/L 10-F55						55°				
502.MT030TR/L 15-F60	1.45	3.3	3.0	15	45	60°	1.2	1.2	0.25-1.0	72-24
502.MT030TR/L 15-F55						55°				
502.MT030TR/L 15-A60	1.40	3.2	4.0	15	45	60°	2.0	2.2	0.5-1.0	56-24
502.MT030TR/L 15-A55						55°				
502.MT040TR/L 15-F60	1.95	4.3	4.0	15	45	60°	1.2	1.2	0.25-1.0	72-24
502.MT040TR/L 15-F55						55°				
502.MT040TR/L 15-A60	1.80	4.1	5.0	15	50	60°	2.0	2.2	0.5-1.0	48-24
502.MT040TR/L 15-A55						55°				
502.MT050TR/L 15-A60	2.30	5.1	6.0	15	50	60°	2.0	2.2	0.5-1.25	48-20
502.MT050TR/L 15-A55						55°				
502.MT060TR/L 15-A60	2.90	6.2	8.0	20	60	60°	3.4	3.6	1.0-1.5	48-16
502.MT060TR/L 15-A55						55°				
502.MT080TR/L 20-AG60	3.80	8.1	10.0	20	70	60°	3.4	3.6	1.0-2.0	24-13
502.MT080TR/L 20-AG55						55°				
502.MT100TR/L 20-AG60	4.80	10.1	10.0	20	70	60°	3.4	3.6	1.0-3.0	24-8
502.MT100TR/L 20-AG60						55°				

### THREADING 502 Type



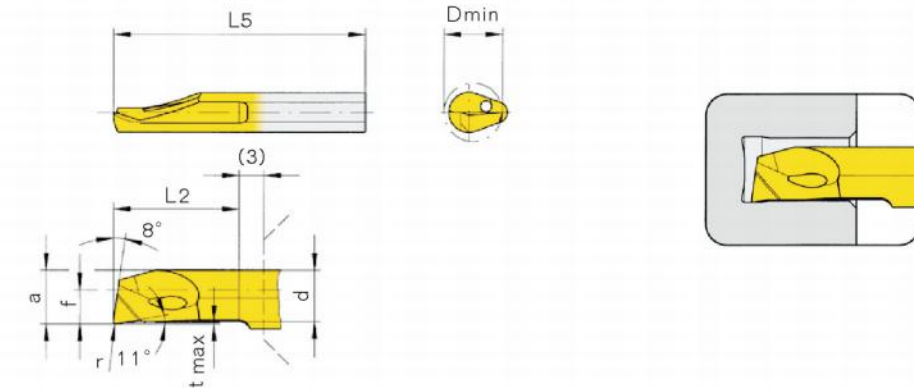
Designation	F	Dmin	D	L1	L	α	hmin	Pitch Range	
								mm	TPI
502.MT030TR/L 15-050ISO	1.45	3.3	3.0	15	45	60°	0.27	0.50	
502.MT030TR/L 15-075ISO							0.41	0.75	
502.MT030TR/L 15-360UN							0.38		36
502.MT030TR/L 15-320UN							0.43		32
502.MT040TR/L 15-050ISO	1.95	4.3	4.0	15	45		0.27	0.50	
502.MT040TR/L 15-075ISO	1.90	4.2					0.41	0.75	
502.MT040TR/L 15-080ISO	1.85	4.0					0.43	0.80	
502.MT040TR/L 15-320UN	1.85	4.0					0.43		32
502.MT040TR/L 15-280UN	1.90	4.2					0.49		28
502.MT040TR/L 15-240UN	1.95	4.3					0.57		24
502.MT050TR/L 15-050ISO	2.45	5.2	5.0	15	50		0.27	0.50	
502.MT050TR/L 15-075ISO	2.40	5.1					0.41	1.75	
502.MT050TR/L 15-100ISO	2.25	4.8				0.54	1.00		
502.MT050TR/L 15-280UN	2.25	4.8				0.49		28	
502.MT050TR/L 15-240UN	2.40	5.1				0.57		24	
502.MT050TR/L 15-200UN	2.45	5.2				0.69		20	
502.MT060TR/L 15-100ISO	2.95	6.2	6.0	15	50	60°	0.54	1.00	
502.MT060TR/L 15-125ISO							0.68	1.25	
502.MT060TR/L 15-150ISO							0.81	1.50	
502.MT060TR/L 15-160UN							0.86		16
502.MT060TR/L 15-180UN	0.76		18						

### BORING and PROFILING 503 Type



Shank Dia	Designation	f	dmin	a	d	L2	L5	r	tmax				
4.0	503.MT034BR/L 10-R0.05	1.50	4.0	3.7	3.4	10	25	0.05	0.15				
	503.MT034BR/L 15-R0.05					15	30						
	503.MT034BR/L 20-R0.05					20	35						
	503.MT034BR/L 25-R0.05					25	40						
	503.MT034BR/L 10-R0.20					10	25			0.20			
	503.MT034BR/L 15-R0.20					15	30						
	503.MT034BR/L 20-R0.20					20	35						
	503.MT034BR/L 25-R0.20					25	40						
	503.MT044BR/L 10-R0.05					2.80	5.0	4.7			4.4	10	25
	503.MT044BR/L 15-R0.05									15		30	
503.MT044BR/L 20-R0.05	20	35											
503.MT044BR/L 25-R0.05	25	40	0.20										
503.MT044BR/L 30-R0.05	30	45											
503.MT044BR/L 35-R0.05	35	50											
503.MT044BR/L 10-R0.20	10	25											
503.MT044BR/L 15-R0.20	15	30											
503.MT044BR/L 20-R0.20	20	35											
503.MT044BR/L 25-R0.20	25	40											
503.MT044BR/L 30-R0.20	30	45											
503.MT044BR/L 35-R0.20	35	50											
6.0	503.MT054BR/L 10-R0.05	3.30	6.0	5.7	5.4	10	25	0.05	0.05				
	503.MT054BR/L 15-R0.05					15	30						

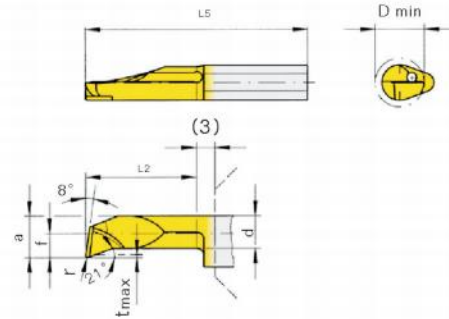
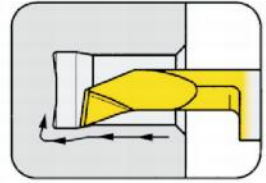
### BORING and PROFILING 503 Type



Shank Dia	Designation	f	dmin	a	d	L2	L5	r	tmax
6.0	503.MT054BR/L 20-R0.05	3.30	6.0	5.7	5.4	20	35	0.05	0.15
	503.MT054BR/L 25-R0.05					25	40		
	503.MT054BR/L 30-R0.05					30	45		
	503.MT054BR/L 35-R0.05					35	50		
	503.MT054BR/L 10-R0.20					10	25		
	503.MT054BR/L 15-R0.20					15	30		
	503.MT054BR/L 20-R0.20					20	35		
	503.MT054BR/L 25-R0.20					25	40		
	503.MT054BR/L 30-R0.20					30	45		
	503.MT054BR/L 35-R0.20					35	50	0.20	
7.0	503.MT061BR/L 10-R0.20	4.00	6.8	6.4	6.1	10	25	0.20	
	503.MT061BR/L 15-R0.20					15	30		
	503.MT061BR/L 20-R0.20					20	35		
	503.MT061BR/L 25-R0.20					25	40		
	503.MT061BR/L 30-R0.20					30	45		
	503.MT061BR/L 35-R0.20					35	50		

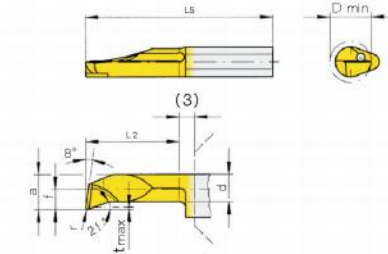
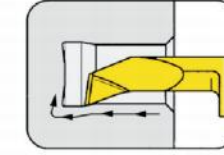


### BORING and PROFILING 503 Type



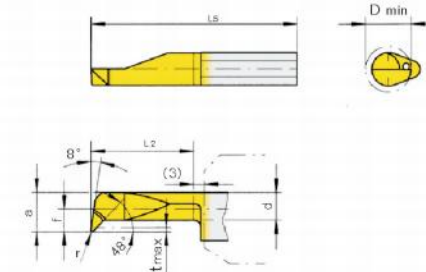
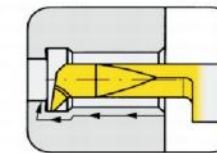
Shank Dia	Designation	f	dmin	$\alpha$	d	L2	L5	r	tmax
3.0	503.MT023BPR/L 10-R0.05	1.30	3.0	2.6	2.3	10	25	0.05	0.15
	503.MT023BPR/L 15-R0.05					15	30		
	503.MT023BPR/L 20-R0.05					20	35		
	503.MT023BPR/L 10-R0.10					10	25	0.10	
	503.MT023BPR/L 15-R0.10					15	30		
	503.MT023BPR/L 20-R0.10					20	35		
	503.MT023BPR/L 10-R0.20					10	25		
	503.MT023BPR/L 15-R0.20					15	30	0.20	
	503.MT023BPR/L 20-R0.20					20	35		
	4.0					503.MT029BPR/L 10-R0.05	1.90	4.0	
503.MT029BPR/L 15-R0.05		15	30						
503.MT029BPR/L 20-R0.05		20	35						
503.MT029BPR/L 10-R0.20		10	25	0.20					
503.MT029BPR/L 15-R0.20		15	30						
503.MT029BPR/L 20-R0.20	20	35							
5.0	503.MT040BPR/L 10-R0.05	2.30	5.0	4.7	4.0	10	25	0.05	0.50
	503.MT040BPR/L 15-R0.05					15	30		
	503.MT040BPR/L 20-R0.05					20	35		
	503.MT040BPR/L 25-R0.05					25	40	0.20	
	503.MT040BPR/L 30-R0.05					30	45		
	503.MT040BPR/L 10-R0.20					10	25		
503.MT040BPR/L 15-R0.20	15	30							

### BORING and PROFILING 503 Type



Shank Dia	Designation	f	dmin	$\alpha$	d	L2	L5	r	tmax
5.0	503.MT040BPR/L 20-R0.20	2.30	5.0	4.7	4.0	20	35	0.20	0.50
	503.MT040BPR/L 25-R0.20					25	40		
	503.MT040BPR/L 30-R0.20					30	45		
6.0	503.MT047BPR/L 15-R0.05	3.30	6.0	5.7	4.7	15	30	0.05	0.50
	503.MT047BPR/L 20-R0.05					20	35		
	503.MT047BPR/L 25-R0.05					25	40		
	503.MT047BPR/L 30-R0.05					30	45	0.20	
	503.MT047BPR/L 15-R0.20					15	30		
	503.MT047BPR/L 20-R0.20					20	35		
7.0	503.MT052BPR/L 20-R0.05	4.00	6.8	6.4	5.2	20	35	0.05	0.50
	503.MT052BPR/L 25-R0.05					25	40		
	503.MT052BPR/L 30-R0.05					30	45		
	503.MT052BPR/L 20-R0.20					20	35	0.20	
	503.MT052BPR/L 25-R0.20					25	40		
	503.MT052BPR/L 30-R0.20					30	45		

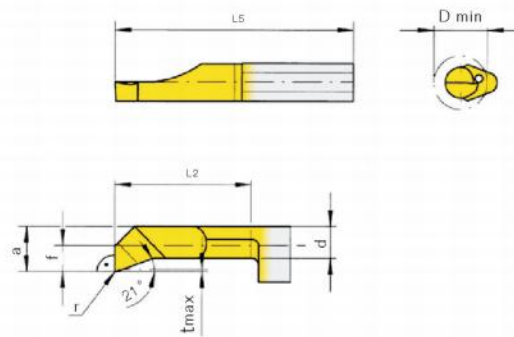
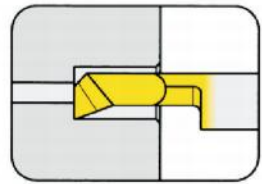
### BORING and PROFILING 503 Type



Shank Dia	Designation	f	dmin	$\alpha$	d	L2	L5	r	tmax
4.0	503.MT029BCR/L 10-R0.15	1.90	4.0	3.7	2.9	10	25	0.15	0.60
	503.MT029BCR/L 20-R0.15					20	35		
5.0	503.MT037BCR/L 15-R0.15	2.30	5.0	4.7	3.7	15	30	0.15	0.80
	503.MT037BCR/L 25-R0.15					25	40		
6.0	503.MT038BCR/L 20-R0.15	3.30	6.0	5.7	3.8	20	35	0.15	1.80
	503.MT038BCR/L 30-R0.15					30	45		

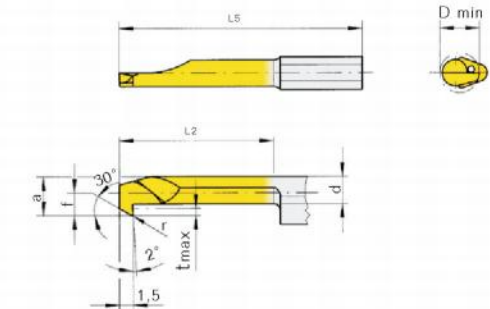
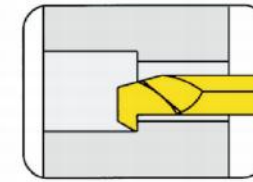


### BORING and PROFILING 503 Type



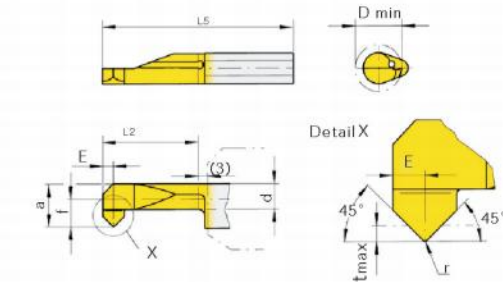
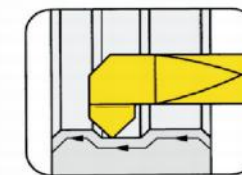
Shank Dia	Designation	f	dmin	a	d	L2	L5	r	tmax	
3.0	503.MT023BTR/L 10-R0.10	1.30	3.0	2.6	2.3	10	25	0.10	0.15	
	503.MT023BTR/L 15-R0.10					15	30			
	503.MT023BTR/L 20-R0.10					20	35			
	503.MT023BTR/L 10-R0.20					10	25			0.20
	503.MT023BTR/L 15-R0.20					15	30			
4.0	503.MT029BTR/L 10-R0.10	1.90	4.0	3.7	2.9	10	25	0.10	0.30	
	503.MT029BTR/L 15-R0.10					15	30			
	503.MT029BTR/L 20-R0.10					20	35			
	503.MT029BTR/L 10-R0.20					10	25	0.20		
	503.MT029BTR/L 15-R0.20					15	30			
5.0	503.MT040BTR/L 10-R0.10	2.30	5.0	4.7	4.0	10	25	0.10	0.50	
	503.MT040BTR/L 15-R0.10					15	30			
	503.MT040BTR/L 20-R0.10					20	35			
	503.MT040BTR/L 25-R0.10					25	40	0.20		
	503.MT040BTR/L 10-R0.20					10	25			
6.0	503.MT047BTR/L 10-R0.20	3.30	6.0	5.7	4.7	10	25	0.20		
	503.MT047BTR/L 15-R0.20					15	30			
	503.MT047BTR/L 20-R0.20					20	35			
	503.MT047BTR/L 25-R0.20					25	40			
	503.MT047BTR/L 30-R0.20					30	45			

### BORING and PROFILING 503 Type



Shank Dia	Designation	f	dmin	a	d	L2	L5	r	tmax
3.0	503.MT019BBR/L 15-R0.10	1.30	3.0	2.6	1.9	15	20	0.10	0.50
	503.MT019BBR/L 20-R0.10					20	35		
4.0	503.MT027BBR/L 15-R0.15	1.90	4.0	3.7	2.7	15	30	0.15	0.80
	503.MT027BBR/L 25-R0.15					25	40		
5.0	503.MT035BBR/L 20-R0.20	2.30	5.0	4.7	3.5	20	35	0.20	1.00
	503.MT035BBR/L 30-R0.30					30	45		
6.0	503.MT037BBR/L 20-R0.20	3.30	6.0	5.7	3.7	20	35	0.20	1.80
	503.MT037BBR/L 30-R0.30					30	45		
7.0	503.MT038BBR/L 20-R0.20	4.00	6.8	6.4	3.8	20	35	0.20	2.50
	503.MT038BBR/L 30-R0.30					30	45		

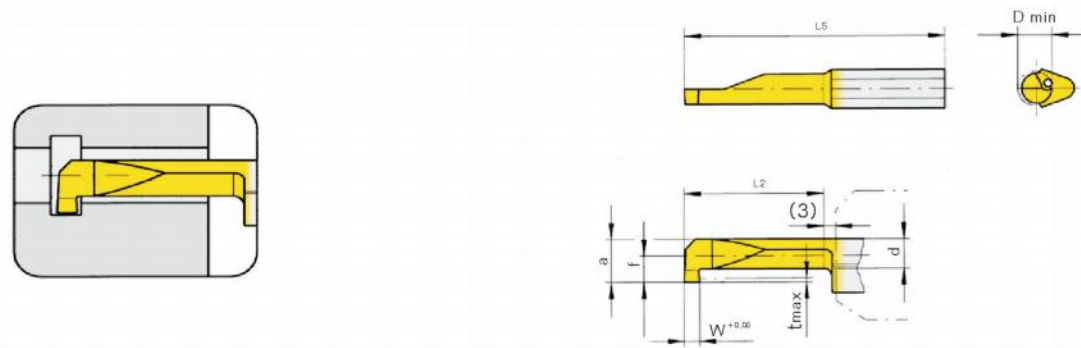
### BORING and PROFILING 503 Type



Shank dia	Designation	f	E	Dmin	a	d	L2	L5	r	tmax
5.0	503.MT035BFR/L 15-R0.20	2.30	1	5.0	4.7	3.5	15	30	0.20	0.70
7.0	503.MT047BFR/L 20-R0.20	4.00	1	7.0	6.4	4.7	20	35	0.20	0.70

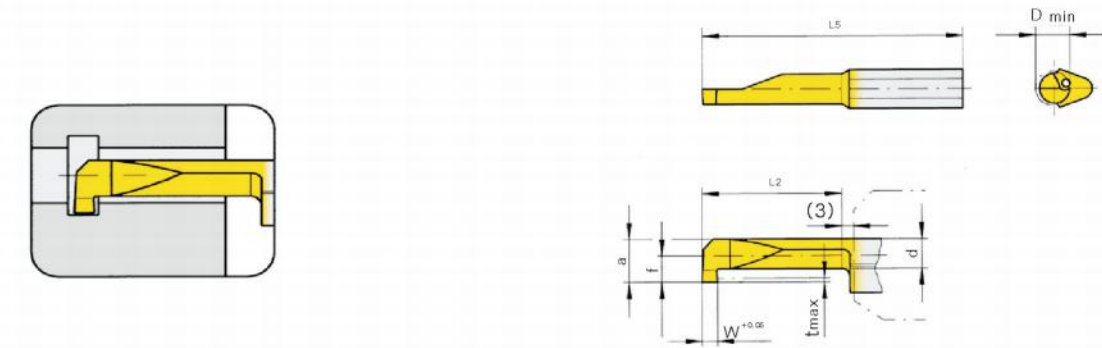


### GROOVING 503 Type



Shank Dia	Designation	f	dmin	a	d	L2	L5	W	tmax
3.0	503.MT019GR/L 08-W070	1.40	3.0	2.7	1.9	8	25	0.70	0.60
	12					30			
	16					35			
4.0	503.MT027GR/L 10-W100	1.90	4.0	3.7	2.7	10	25	1.00	0.80
	15					30			
	20					35			
5.0	503.MT035GR/L 10-W100	2.30	5.0	4.7	3.5	10	25	1.00	1.00
	503.MT035GR/L 10-W150							1.50	
	503.MT035GR/L 10-W200							2.00	
	503.MT035GR/L 15-W100					15	30	1.00	1.00
	503.MT035GR/L 15-W150							1.50	
	503.MT035GR/L 15-W200							2.00	
	503.MT035GR/L 20-W100					20	35	1.00	1.00
	503.MT035GR/L 20-W150							1.50	
	503.MT035GR/L 20-W200							2.00	
	503.MT035GR/L 25-W100					25	40	1.00	1.00
	503.MT035GR/L 25-W150							1.50	
	503.MT035GR/L 25-W200							2.00	
	503.MT035GR/L 30-W100					30	45	1.00	1.00
	503.MT035GR/L 30-W150							1.50	
	503.MT035GR/L 30-W200							2.00	
6.0	503.MT037GR/L 10-W100	3.30	6.0	5.7	3.7	10	25	1.00	1.80

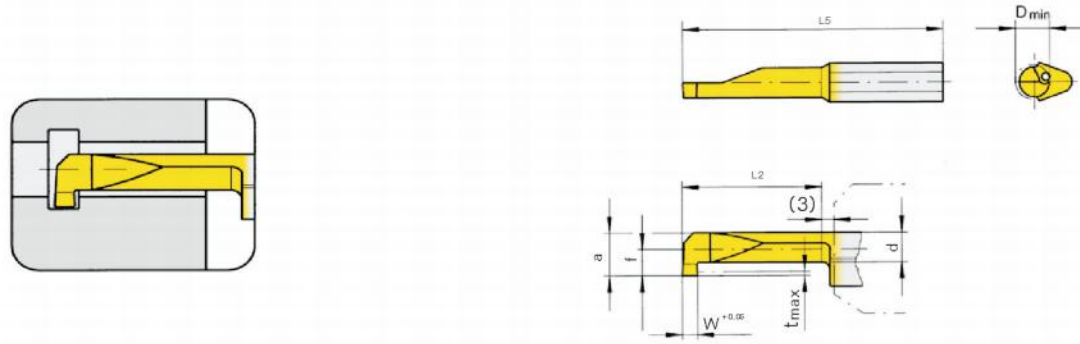
### GROOVING 503 Type



Shank Dia	Designation	f	dmin	a	d	L2	L5	W	tmax
6.0	503.MT037GR/L 10-W150	3.30	6.0	5.7	3.7	10	25	1.50	1.80
	503.MT037GR/L 10-W200							2.00	
	503.MT037GR/L 15-W100					15	30	1.00	
	503.MT037GR/L 15-W150							1.50	
	503.MT037GR/L 15-W200					20	35	2.00	
	503.MT037GR/L 20-W100							1.00	
	503.MT037GR/L 20-W150							1.50	
	503.MT037GR/L 20-W200					25	40	2.00	
	503.MT037GR/L 25-W100							1.00	
	503.MT037GR/L 25-W150					30	45	1.50	
503.MT037GR/L 25-W200	2.00								
6.0	503.MT037GR/L 30-W100	3.30	6.0	5.7	3.7	30	45	1.00	1.80
503.MT037GR/L 30-W150	1.50								
503.MT037GR/L 30-W200	2.00								
7.0	503.MT038GR/L 10-W100	4.00	6.8	6.4	3.8	10	25	1.00	2.50
	503.MT038GR/L 10-W150							1.50	
	503.MT038GR/L 10-W200							2.00	
	503.MT038GR/L 15-W100					15	30	1.00	
	503.MT038GR/L 15-W150							1.50	
	503.MT038GR/L 15-W200					20	35	2.00	
	503.MT038GR/L 20-W100							1.00	
	503.MT038GR/L 20-W150							1.50	

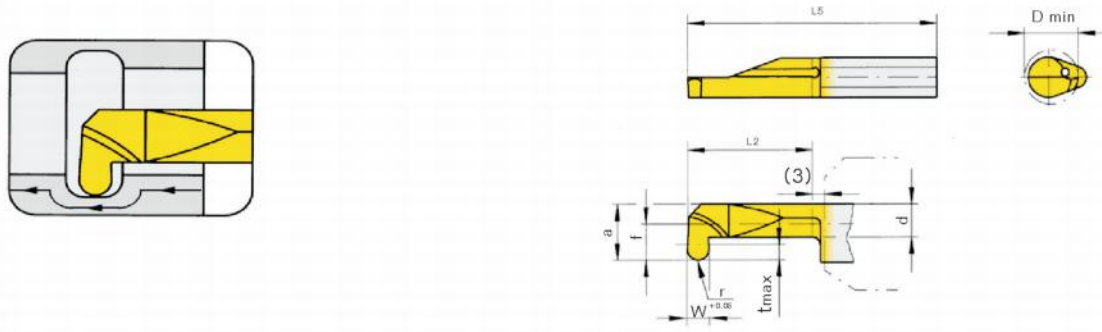


### GROOVING 503 Type



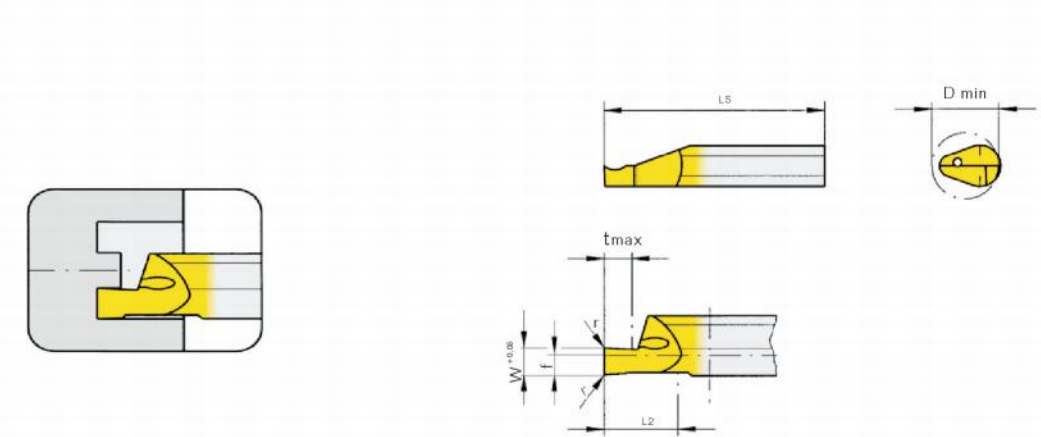
Shank Dia	Designation	f	d <sub>min</sub>	a	d	L2	L5	W	t <sub>max</sub>
7.0	503.MT038GR/L 20-W200	4.00	6.8	6.4	3.8	20	35	2.00	2.50
	503.MT038GR/L 25-W100					1.00			
	503.MT038GR/L 25-W150					1.50			
	503.MT038GR/L 25-W200					2.00	40		
	503.MT038GR/L 30-W100					1.00			
	503.MT038GR/L 30-W150					1.50			
	503.MT038GR/L 30-W200					2.00			

### GROOVING 503 Type



Shank Dia	Designation	f	d <sub>min</sub>	a	d	L2	L5	W	t <sub>max</sub>
4.0	503.MT027GGR/L 15-W100	1.90	4.0	3.7	2.7	15	30	100	0.80
5.0	503.MT035GGR/L 20-W100	2.30	5.0	4.7	3.5	20	35	100	1.00
	503.MT035GGR/L 20-W150							150	
	503.MT035GGR/L 20-W200							200	
6.0	503.MT037GGR/L 25-W100	3.00	6.0	5.7	3.7	25	40	100	1.80
	503.MT037GGR/L 25-W150							150	
	503.MT037GGR/L 25-W200							200	
7.0	503.MT038GGR/L 30-W100	4.00	6.8	6.4	3.8	30	45	100	2.50
	503.MT038GGR/L 30-W150							150	
	503.MT038GGR/L 30-W200							200	

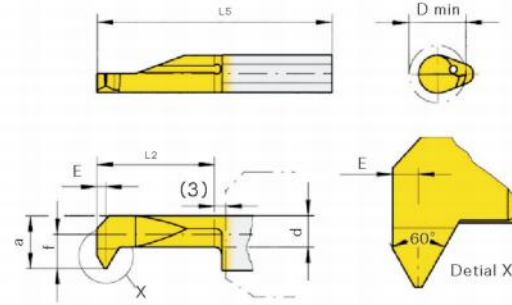
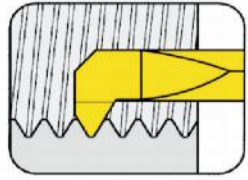
### GROOVING 503 Type



Shank Dia	Designation	f	d <sub>min</sub>	W	L2	L5	r	t <sub>max</sub>	
5.0	503.MT050GFR/L 10-W100	2.00	5.2	1.00	10	25	0.05	2.00	
	503.MT050GFR/L 10-W150			1.50				3.00	
	503.MT050GFR/L 10-W200			2.00				5.00	
	503.MT050GFR/L 15-W100			1.00	15	35		2.00	
	503.MT050GFR/L 15-W150			1.50				3.00	
	503.MT050GFR/L 15-W200			2.00				5.00	
	503.MT060GFR/L 10-W100			1.00				10	25
503.MT060GFR/L 10-W150	1.50	3.00							
503.MT060GFR/L 10-W200	2.00	5.00							
6.0	503.MT060GFR/L 15-W100	2.00	6.2	1.00	15	35	0.05	2.00	
	503.MT060GFR/L 15-W150			1.50				3.00	
	503.MT060GFR/L 15-W200			2.00				5.00	
	503.MT080GFR/L 10-W100			1.00				10	25
	503.MT080GFR/L 10-W150			1.50	3.00				
	503.MT080GFR/L 10-W200			2.00	4.00				
	503.MT080GFR/L 10-W250			2.50	5.00				
503.MT080GFR/L 10-W300	3.00	6.00							
503.MT080GFR/L 15-W100	1.00	15	35	0.15	2.00				
503.MT080GFR/L 15-W150	1.50				3.00				
503.MT080GFR/L 15-W200	2.00				4.00				
503.MT080GFR/L 15-W250	2.50				5.00				
7.0	503.MT080GFR/L 15-W300	2.00	8.2	3.00				6.00	
	503.MT080GFR/L 15-W300			3.00				6.00	

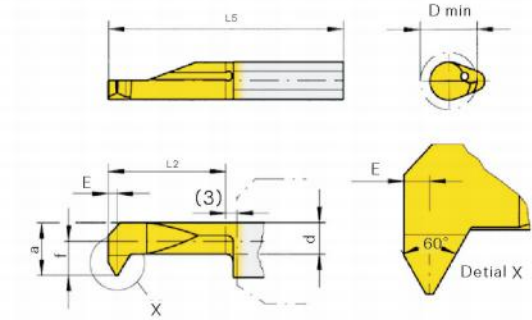
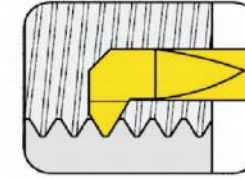


### THREADING 503 Type



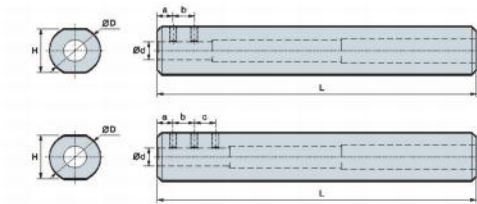
Shank Dia	Designation	f	Dmin	a	d	L2	L5	pitch	TPI	E
3.0	503.MT020TR/L 15-050ISO	1.40	3.0	2.7	2.0	15	30	0.50	-	0.35
	503.MT020TR/L 15-075ISO					15	30	0.75	-	0.45
4.0	503.MT027TR/L 15-050ISO	1.90	4.0	3.7	2.7	15	30	0.50	-	0.35
	503.MT027TR/L 20-050ISO					20	35			
	503.MT027TR/L 10-075ISO					10	25	0.75	-	0.45
	503.MT027TR/L 15-075ISO					15	30			
	503.MT027TR/L 20-075ISO					20	35			
503.MT027TR/L 15-320UN	15	30	-	32	0.45					
5.0	503.MT035TR/L 15-050ISO	2.30	5.0	4.7	3.5	15	30	0.50	-	0.35
	503.MT035TR/L 20-050ISO					20	35			
	503.MT035TR/L 25-050ISO					25	40			
	503.MT035TR/L 15-075ISO					15	30	0.75	-	0.45
	503.MT035TR/L 20-075ISO					20	35	0.75	-	0.45
503.MT035TR/L 25-075ISO	25	40								
5.0	503.MT035TR/L 15-100ISO	2.10	4.8	4.5	3.5	15	30	1.00	-	0.55
	503.MT035TR/L 20-100ISO					20	35			
	503.MT035TR/L 25-100ISO					25	40			
	503.MT035TR/L 15-240UN					15	30	-	24	0.55
	503.MT035TR/L 15-320UN					15	30	-	32	0.45
6.0	503.MT037TR/L 15-100ISO	3.30	6.0	5.7	3.7	15	30	1.00	-	0.55
	503.MT037TR/L 15-125ISO					15	30	1.25	-	0.65
	503.MT037TR/L 20-125ISO					20	35			
	503.MT037TR/L 25-125ISO					25	40			
	503.MT037TR/L 15-160UN					15	30	-	16	0.70

### THREADING 503 Type



Shank Dia	Designation	f	Dmin	a	d	L2	L5	pitch	TPI	E
6.0	503.MT037TR/L 20-160UN	3.30	6.0	5.7	3.7	20	35	-	16	0.70
	503.MT037TR/L 25-160UN					25	40			
7.0	503.MT037TR/L 15-240UN	4.00	7.0	6.4	3.8	15	30	-	24	0.55
	503.MT037TR/L 20-240UN					20	35			
	503.MT037TR/L 25-240UN					25	40			
	503.MT038TR/L 15-150ISO					15	30	1.50	-	0.75
503.MT038TR/L 20-150ISO	20	35								
503.MT038TR/L 25-150ISO	25	40								
6.0	503.MT047TR/L 20-050ISO	3.30	6.0	5.7	4.7	20	35	0.50	-	0.35
	503.MT047TR/L 20-075ISO					20	35	0.75	-	0.45

### THREADING 503 Type



Designation	Φd	a	b	c	ΦD	H	L	Screw	Wrench	Fig.
SHB-0316-100L	3.0	5	-	-	16	14	100	M3	L1.5	1
SHB-0416-100L	4.0	5	6	-	16	14	100	M4	L2.0	1
SHB-0516-100L	5.0	5	8	-	16	14	100	M4	L2.0	1
SHB-0616-100L	6.0	5	6	6	16	14	100	M4	L2.0	2
SHB-0716-100L	7.0	5	6	8	16	14	100	M4	L2.0	2
SHB-0820-100L	8.0	5	10	10	20	18	100	M4	L2.0	2
SHB-1020-100L	10.0	5	10	10	20	18	100	M5	L2.0	2



