

90°

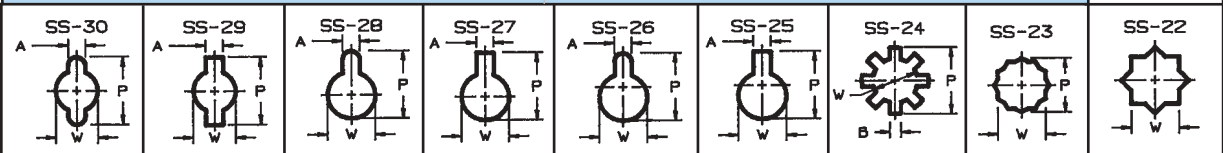
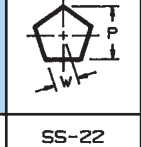
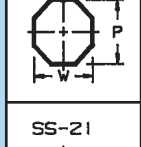
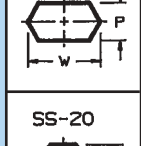
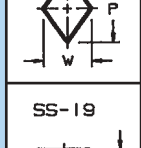
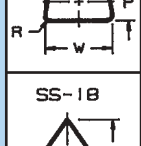
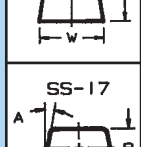
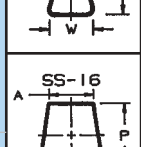
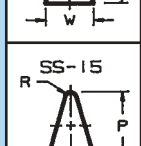
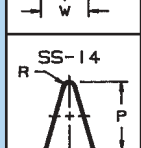
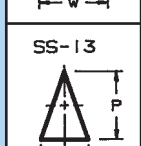
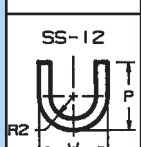
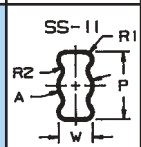
EXACTA PRECISION PRODUCTS LIMITED

MH979 METRIC PUNCHES - DIES ACCESSORIES

180°

0°

270°



15	STOCK PUSHERS	
14	LIFTER PINS	
13	IN DIE TAPPING UNITS	
12	SELF LUBE WEAR PRODUCTS	
11	SPOOLS	
10	URETHANE	
9	CAM SLIDE UNITS	
8	SPRING CAGES	
7	DIE SETS	
6	DOWELS	
5	SCREWS	
4	NITROGEN SPRINGS	
3	DIE SPRINGS	
2	DIES	
1	PUNCHES	
DET.	DESCRIPTION	QTY.
BILL OF MATERIAL		
EXACTA PRECISION PROD. LTD.		
DUST. STANDARDS		
COMMENTS		
DATE	THRU	DR. NO.
SCALE		

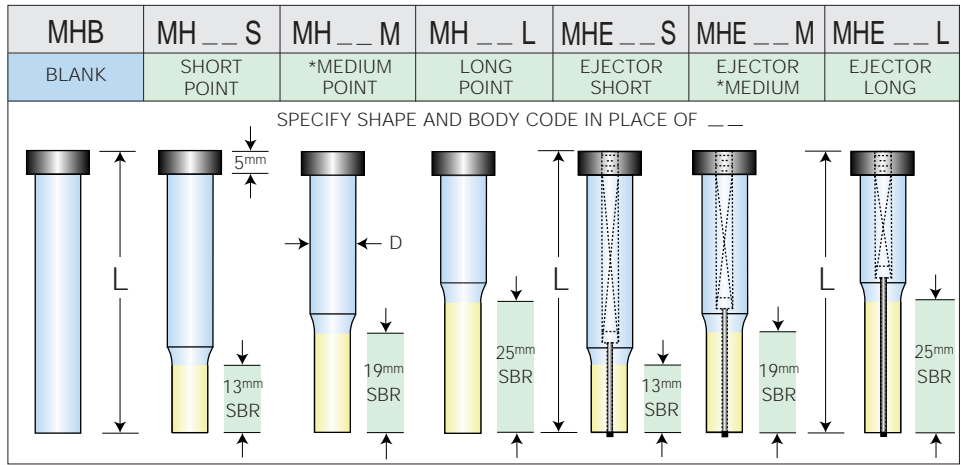


PUNCHES

HEAD TYPE

PRESS FIT

METRIC



HEAD CODE	SHAPE CODE	BODY & STEEL CODE		SBR CODE	STANDARD LENGTHS										MIN. P/W	MIN. P/W EJECT.	USES EJCT. KIT	STANDARD KEYING PLAN VIEW SHOWN			
		M2	A2		40	50	56	60	63	70	71	80	90	100							
MH METRIC HEADED	C ROUND 	5	5A	S 13mm SBR	•	•	•	•	•	•	•	•	•	•	•	1.5	1.5	MEK 2	SINGLE FLAT F1 90° 		
		6	6A		•	•	•	•	•	•	•	•	•	•	•	1.5	2.5	MEK 3			
		8	8A		•	•	•	•	•	•	•	•	•	•	•	2.5	3.0	MEK 4			
	MHE METRIC HEADED EJECTOR	O OBLONG 	10	10A	*M 19mm SBR STANDARD L 25mm SBR	•	•	•	•	•	•	•	•	•	•	•	•	3.0	3.0	MEK 4	DOUBLE FLAT F2 -0°
			13	13A		•	•	•	•	•	•	•	•	•	•	•	4.5	4.5	MEK 5		
		R RECTANGLE (SQUARE) 	16	16A		•	•	•	•	•	•	•	•	•	•	•	6.0	6.0	MEK 5		
			20	20A		•	•	•	•	•	•	•	•	•	•	•	9.0	9.0	MEK 6		
			25	25A		•	•	•	•	•	•	•	•	•	•	•	10.0	10.0	MEK 6		
		RR RADIUS RECTANGLE 	32	32A		•	•	•	•	•	•	•	•	•	•	•	20.0	10.0	MEK 7	DOWEL SLOTS MDS3 = 3 Ø MDS4 = 4 Ø MDS6 = 6 Ø 	
			40	40A		•	•	•	•	•	•	•	•	•	•	•	25.0	10.0	MEK 7		
B BLANK 	45	45A	•	•	•	•	•	•	•	•	•	•	•	30.0	10.0	MEK 7	Custom Location On Request 				
	50	50A	•	•	•	•	•	•	•	•	•	•	•	35.0	10.0	MEK 7					
	56	56A	•	•	•	•	•	•	•	•	•	•	•	40.0	10.0	MEK 7					
					EXPANDED BODY DIAMETERS																
					EXTENDED LENGTHS AVAILABLE																
					110 - 125 - 140 - 150 mm																

M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED
*M-SBR IS SHIPPED UNLESS OTHERWISE SPECIFIED
P OR G DIMENSION CANNOT EXCEED BODY DIAMETER
EJECTOR PIN LOCKHOLE SUPPLIED ON REQUEST

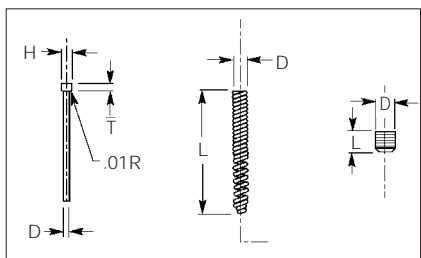
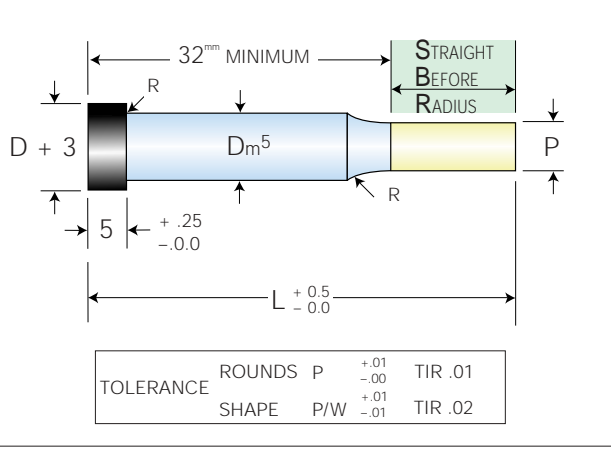
AVAILABLE SURFACE TREATMENTS
IONITRIDING
TITANIUM NITRIDE (TiN)
TITANIUM CARBONITRIDE (TiCN)
CHROMIUM NITRIDE (CrN)
(TECHNICAL INFORMATION SEE PAGE 12)

HOW TO ORDER: EXAMPLE

Qty.	Head Code	Shape	Body & Steel	SBR Code	Length	P x W	R ad	Keying
24	MH	C	16	M	70	13		
6	MHE	O	20	L	80	16 x 10		F1

BODY "D" TOLERANCE

D	m ⁵
5.0	+ 0.004
6.0	+ 0.009
8.0	+ 0.006
10.0	+ 0.012
13.0	+ 0.007
16.0	+ 0.015
20.0	+ 0.008
25.0	+ 0.017
32.0	
40.0	+ 0.009
45.0	+ 0.020
50.0	
56.0	+ 0.011
63.0	+ 0.024

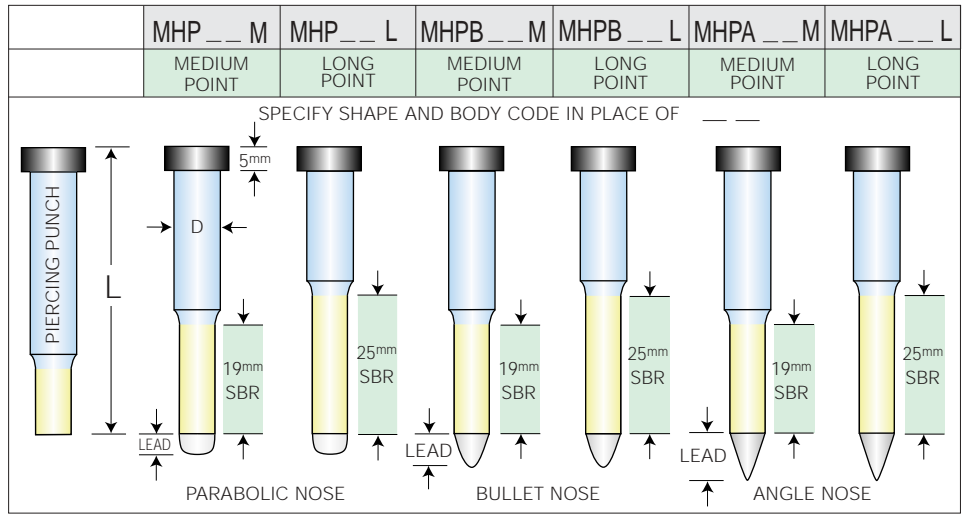


COMPONENT	PIN	SPRING	SET SCREW
Kit #	D	D	D
MEK2	.58	1.9	M2.6
MEK3	.70	2.2	M3
MEK4	1.0	3.1	M4
MEK5	1.5	4.0	M5
MEK6	2.3	5.0	M6
MEK7	3.0	5.0	M6



PILOT HEAD TYPE PRESS FIT METRIC

PILOT NOSE LEAD LENGTH IS
AUTOMATICALLY ADDED TO
THE "L" DIMENSION



PILOT CODE	PILOT NOSE STYLES	BODY & STEEL CODE		SBR CODE	STANDARD LENGTHS						MIN. P DIM.															
		M2	A2		60	63	70	71	80	90		100														
MHPP METRIC HEADED PILOT PARABOLIC NOSE	<table border="1"> <tr><th>"P" RANGE</th><th>LEAD LENGTH</th></tr> <tr><td>3. - 32 mm</td><td>6 mm</td></tr> </table>	"P" RANGE	LEAD LENGTH	3. - 32 mm	6 mm	5	5A	*M 19mm SBR STANDARD	•	•	•	•				1.5										
		"P" RANGE	LEAD LENGTH																							
		3. - 32 mm	6 mm																							
		6	6A	•	•	•	•		•				1.5													
		8	8A	•	•	•	•		•				2.5													
		10	10A	•	•	•	•		•	•	•		3.0													
		13	13A	•	•	•	•		•	•	•	•	4.5													
16	16A	•	•	•	•	•	•	•	•	6.0																
20	20A	•	•	•	•	•	•	•	•	8.0																
MHPB METRIC HEADED PILOT BULLET NOSE	<table border="1"> <tr><th>"P" RANGE</th><th>LEAD LENGTH</th></tr> <tr><td>3. - 10.</td><td>10</td></tr> <tr><td>10.1 - 15.</td><td>15</td></tr> <tr><td>15.1 - 32.</td><td>20</td></tr> </table>	"P" RANGE	LEAD LENGTH	3. - 10.	10	10.1 - 15.	15	15.1 - 32.	20	25	25A	L 25mm SBR		•	•	•	•	•		10.0						
		"P" RANGE	LEAD LENGTH																							
		3. - 10.	10																							
		10.1 - 15.	15																							
		15.1 - 32.	20																							
		32	32A		•	•	•	•	•	•			20.0													
		40	40A		•	•	•	•	•	•			25.0													
45	45A		•	•	•	•	•	•		30.0																
50	50A		•	•	•	•	•	•		35.0																
56	56A		•	•	•	•	•	•		40.0																
63	63A		•	•	•	•	•	•		40.0																
MHPA METRIC HEADED PILOT ANGLE NOSE	<table border="1"> <tr><th>"P" RANGE</th><th>LEAD LENGTH</th></tr> <tr><td>8.0 - 13.0</td><td>10.0</td></tr> <tr><td>13.1 - 16.0</td><td>15.0</td></tr> <tr><td>16.1 - 20.0</td><td>20.0</td></tr> <tr><td>20.1 - 25.0</td><td>25.0</td></tr> <tr><td>25.1 - 32.0</td><td>30.0</td></tr> <tr><td>32.1 - 40.0</td><td>40.0</td></tr> </table>	"P" RANGE	LEAD LENGTH	8.0 - 13.0	10.0	13.1 - 16.0	15.0	16.1 - 20.0	20.0	20.1 - 25.0	25.0	25.1 - 32.0	30.0	32.1 - 40.0	40.0			LONGER SBR AVAILABLE								
		"P" RANGE	LEAD LENGTH																							
		8.0 - 13.0	10.0																							
		13.1 - 16.0	15.0																							
		16.1 - 20.0	20.0																							
		20.1 - 25.0	25.0																							
25.1 - 32.0	30.0																									
32.1 - 40.0	40.0																									

EXTENDED LENGTHS AVAILABLE
110 - 125 - 140 - 150 mm

LEAD LENGTH IS AUTOMATICALLY ADDED TO THE "L" DIMENSION ORDERED

HOW TO ORDER: EXAMPLE

Qty.	Pilot Style	Shape	Body & Steel	SBR Code	Length	P
2	MHPB	C	16	M	90	12.0

M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED.
*M-SBR IS SHIPPED UNLESS OTHERWISE SPECIFIED

BODY "D" TOLERANCE

D	m ⁵
5.0	+ 0.004
6.0	+ 0.009
8.0	+ 0.006
10.0	+ 0.012
13.0	+ 0.007
16.0	+ 0.015
20.0	+ 0.008
25.0	+ 0.017
32.0	
40.0	+ 0.009
45.0	+ 0.020
50.0	
56.0	+ 0.011
63.0	+ 0.024

ALL LEADS WILL ALLOW THE PILOT TO ENTER THE STOCK BY 2mm BEFORE THE PIERCING PUNCH ENTERS THE MATERIAL.

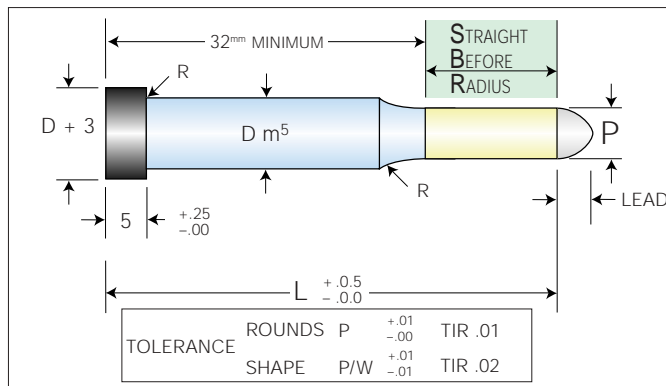
SHAPE CODE

- ROUND = C
- OBLONG = O
- RECTANGULAR = R (SQUARE)
- RADIUS RECTANGULAR = RR

AVAILABLE SURFACE TREATMENTS

- IONITRIDING
- TITANIUM NITRIDE (TiN)
- TITANIUM CARBONITRIDE (TiCN)
- CHROMIUM NITRIDE (CrN)

(TECHNICAL INFORMATION SEE PAGE 12)



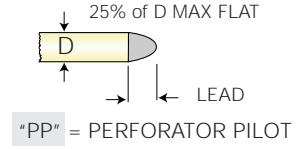
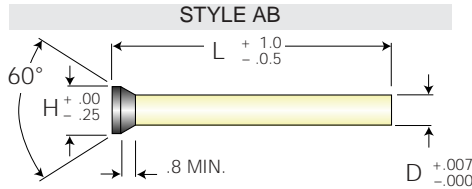
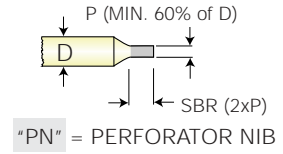
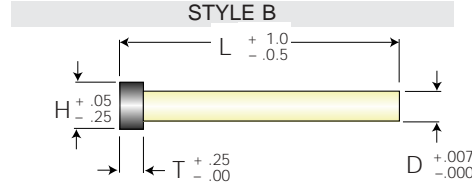


METRIC PERFORATOR PUNCHES

MP SERIES

H.S.S.					
CAT. No.	SIZE RANGE D .01 Increments No.	T	H	STOCK LENGTHS	
				63	71
MP-3	0.8-1.6	5	3	•	
MP-4	1.7-2.0	5	4	•	
MP-5	2.1-3.0	5	5		•
MP-6	3.1-4.0	5	6		•
MP-7	4.1-5.0	5	7		•
MP-8	5.1-6.0	5	8		•
MP-9	6.1-7.0	5	9		•
MP-11	7.1-8.0	5	11		•
MP-13	8.1-10.0	5	13		•

STEEL M2 RC 60-63

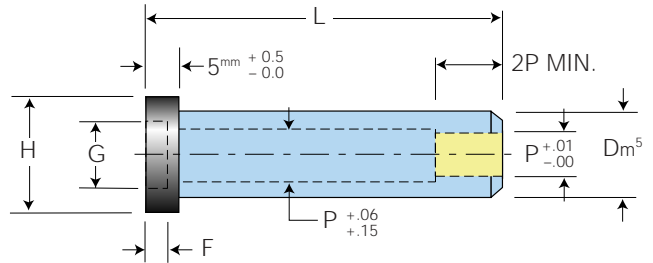


HOW TO ORDER: EXAMPLE				
Qty.	CAT. No.	Length	Size	Style
18	MP7	70	4.5	B

METRIC QUILL BUSHINGS

MQ SERIES

CAT. No.	P	D	H	T	G	F	LENGTHS			
							25	30	40	50
MQ5	0.8 - 1.6	5	8	5	3	5				
MQ6	1.7 - 2.0	6	9	5	4	5				
MQ7	2.1 - 3.0	7	10	5	5	5				
MQ8	3.1 - 4.0	8	11	5	6	5				
MQ9	4.1 - 5.0	9	12	5	7	5				
MQ10	5.1 - 6.0	10	13	5	8	5				
MQ13	6.1 - 7.0	13	16	5	9	5				



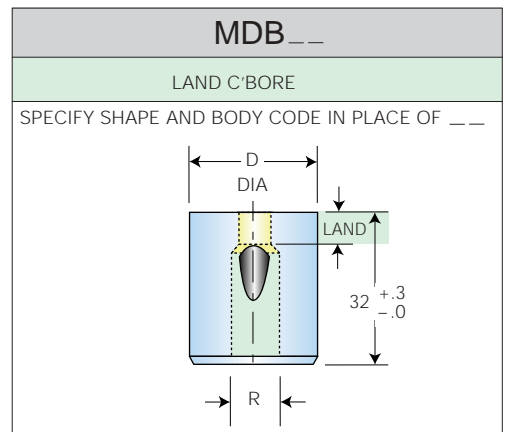
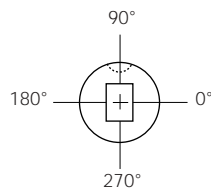
QUILL BUSHINGS ARE NOT HARDENED

METRIC DIES BALL LOCK

The Standard Ball Seat location is at 90°. Alternate locations of 0°, or 180° or 270° can be specified.

Custom Ball Seat locations can be specified at any degree counterclockwise from 0°.

ORIENTATION



DIE CODE	SHAPE CODE	C'BORE STYLE					
		BODY & STEEL CODE A2	MIN. LAND	MIN. P ROUND	MIN. W SHAPE	MAX. P/G SHAPE	R MAX. C' BORE
MDBL METRIC DIE BALL LOCK LIGHT DUTY	C ROUND	13A	4	1.5	1.2	5.0	5.8
	O OBLONG	16A	5	3.2	2.0	7.2	8.0
	R RECTANGLE (SQUARE)	20A	5	4.0	2.4	11.0	11.9
	RR RADIUS RECTANGLE	25A	6	8.0	4.0	15.0	16.0
	W WIRE BLANK	38A	8	16.5	6.4	26.0	27.0

TOLERANCE	ROUNDS P	+0.01 -0.00	TIR 0.01
	SHAPE P/W	+0.02 -0.00	TIR 0.02

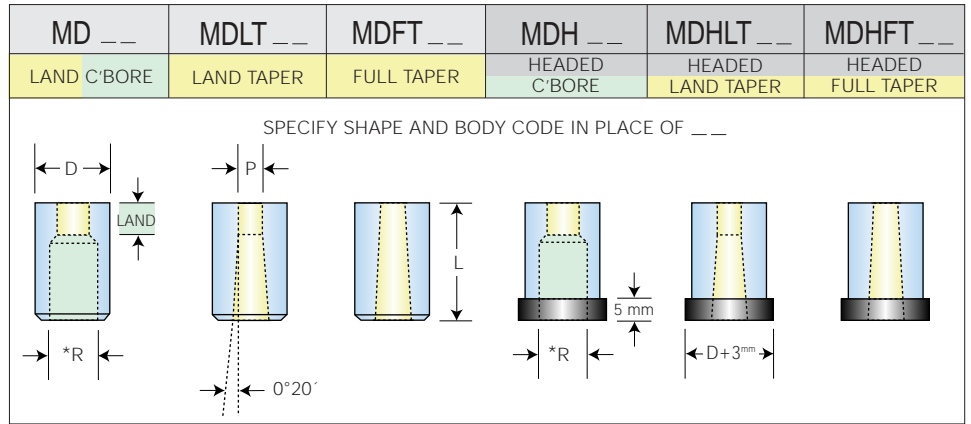


DIES

HEADLESS/HEADED

PRESS FIT

METRIC

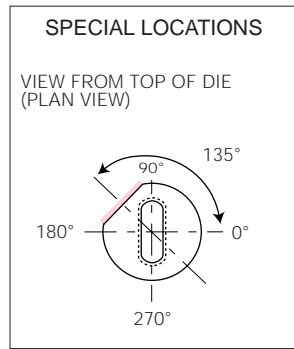
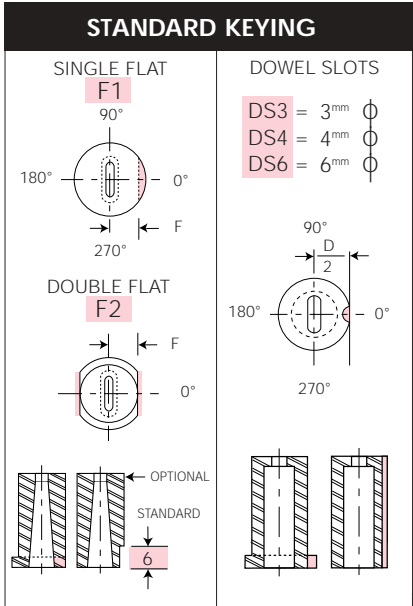
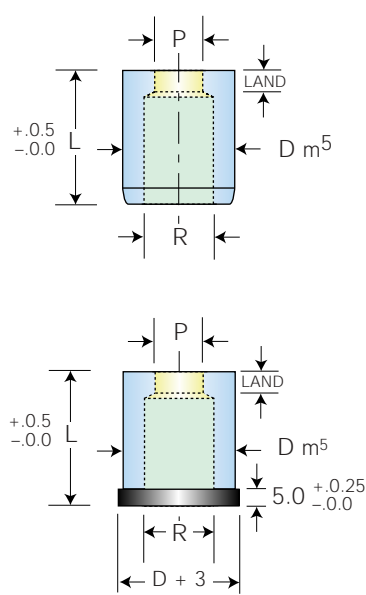


DIE CODE	SHAPE CODE	BODY & STEEL CODE		MIN. LAND	STANDARD LENGTHS								C' BORE STYLE				TAPERED STYLE	
		M2	A2		20	22	25	28	30	32	35	MIN. P ROUND	MIN. W SHAPE	MAX. P/G SHAPE	*R MAX. C' BORE	MIN. P/W	MAX. P/G	
MD METRIC DIE	C ROUND	8	8A	4	•	•	•	•	•	•	•	1.5	1.5	3.9	4.0	1.5	5.4	
		10	10A	4	•	•	•	•	•	•	•	1.5	1.5	5.0	5.5	1.5	6.8	
MDLT METRIC DIE LAND TAPER	O OBLONG	13	13A	5	•	•	•	•	•	•	•	3.0	2.0	7.2	8.0	1.5	8.8	
		16	16A	5	•	•	•	•	•	•	•	5.0	2.4	8.8	9.5	1.9	10.8	
MDFT METRIC DIE FULL TAPER	R RECTANGLE (SQUARE)	20	20A	5	•	•	•	•	•	•	•	7.0	3.2	11.0	12.0	1.9	13.6	
		22	22A	6	•	•	•	•	•	•	•	9.0	4.0	14.0	15.0	1.9	15.0	
MDH METRIC DIE HEADED	RR RADIUS RECTANGLE	25	25A	6	•	•	•	•	•	•	•	11.0	4.5	16.5	17.5	1.9	17.0	
		32	32A	6	•	•	•	•	•	•	•	13.0	5.5	20.0	21.0	1.9	22.0	
MDHLT METRIC DIE HEADED LAND TAPER	W WIRE BLANK	38	38A	8	•	•	•	•	•	•	•	16.0	6.4	26.0	27.0	1.9	27.0	
		40	40A	8	•	•	•	•	•	•	•	16.0	6.4	26.0	27.0	1.9	27.0	
MDHFT METRIC DIE HEADED FULL TAPER	G	45	45A	8	EXPANDED BODY DIAMETERS	•	•	•	•	•	•	19.0	8.0	35.0	36.0	1.9	35.0	
		50	50A	8		•	•	•	•	•	•	22.0	9.0	40.0	41.0	1.9	40.0	
		56	56A	8		•	•	•	•	•	•	25.0	10.0	45.0	46.0	1.9	45.0	
		63	63A	8	•	•	•	•	•	•	28.0	11.0	50.0	51.0	1.9	50.0		

EXTENDED LENGTHS
40 - 45 - 50 mm

TOLERANCE	ROUNDS P	+0.01	TIR .01
	SHAPE P/W	+0.01	TIR .02

HOW TO ORDER: EXAMPLE							
Qty.	Die Style	Shape	Body & Steel	Length	P x W	R _a	Keying
2	MD	C	25	30	12		
6	MDH	O	38	35	20 x 10		DS4



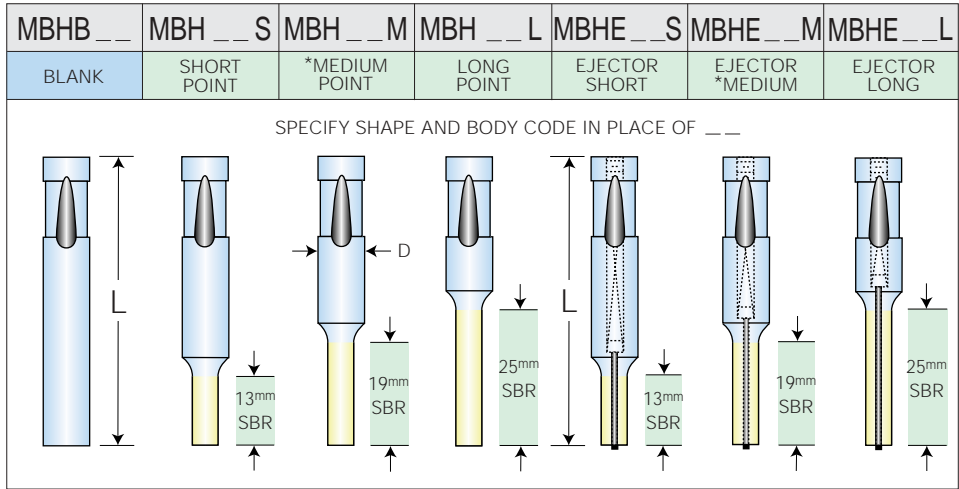
BODY "D" TOLERANCE	
D	m ⁵
4.0	
5.0	+ 0.004
6.0	+ 0.009
8.0	+ 0.006
10.0	+ 0.012
13.0	+ 0.007
16.0	+ 0.015
20.0	+ 0.008
25.0	+ 0.017
32.0	
40.0	+ 0.009
45.0	+ 0.020
50.0	
56.0	+ 0.011
63.0	+ 0.024



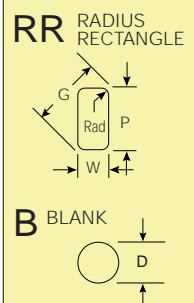
PUNCHES

BALL-LOCK HEAVY DUTY

METRIC

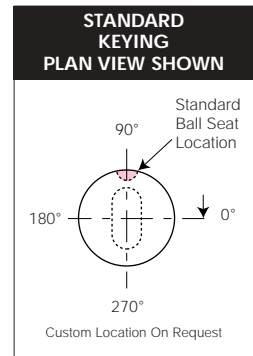


BAR LOCK CODE	SHAPE CODE	BODY & STEEL CODE	SBR CODE	LENGTHS						P/W MIN.	P/W EJCT. MIN.	USES EJCT. KIT					
				STANDARD			EXTENDED										
M2				63	70	71	80	90	100	110	125	140	150				
MBH METRIC BALL-LOCK HEAVY DUTY	C ROUND 	10	S	•	•	•	•	•	•	•	•	•	•	3.0	3.0	MEK4	
		13	13mm SBR	•	•	•	•	•	•	•	•	•	•	4.5	4.5	MEK5	
	MBHE METRIC BALL-LOCK HEAVY DUTY EJECTOR	O OBLONG 	16	*M	•	•	•	•	•	•	•	•	•	•	6.0	6.0	MEK5
20			19mm SBR	•	•	•	•	•	•	•	•	•	•	8.0	8.0	MEK6	
25			STANDARD	•	•	•	•	•	•	•	•	•	•	•	10.0	10.0	MEK6
32			L	•	•	•	•	•	•	•	•	•	•	•	12.0	12.0	MEK6
	R RECTANGLE (SQUARE) 	40	25mm SBR				•	•	•	•	•	•	•	16.0	14.0	MEK7	

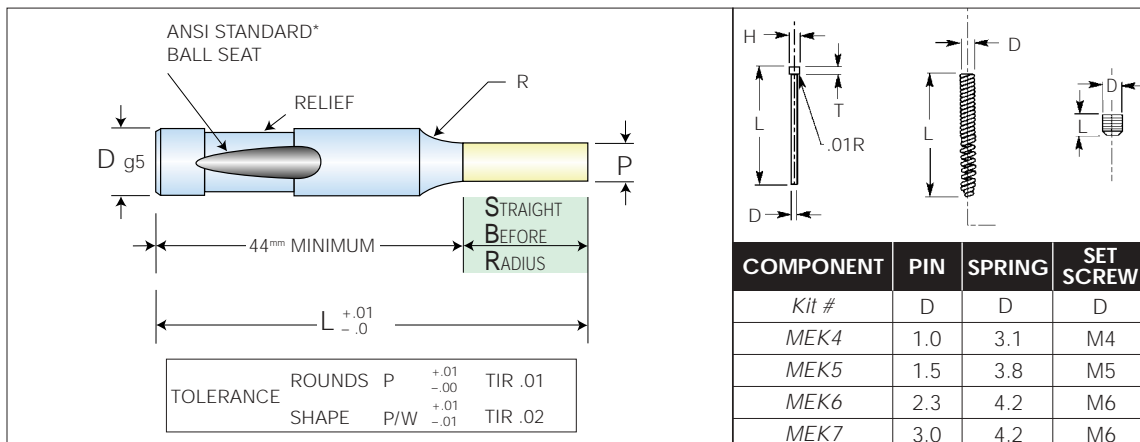


M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED
 *M-SBR IS SHIPPED UNLESS OTHERWISE SPECIFIED
 P OR G DIMENSION CANNOT EXCEED BODY DIAMETER
 EJECTOR PIN LOCKHOLE AVAILABLE ON REQUEST N/C

HOW TO ORDER: EXAMPLE						
Qty.	Head Code	Shape	Body & Steel	SBR Code	Length	W x P
2	MBH	C	20	M	80	13
6	MBHE	O	25	M	80	13 x 23

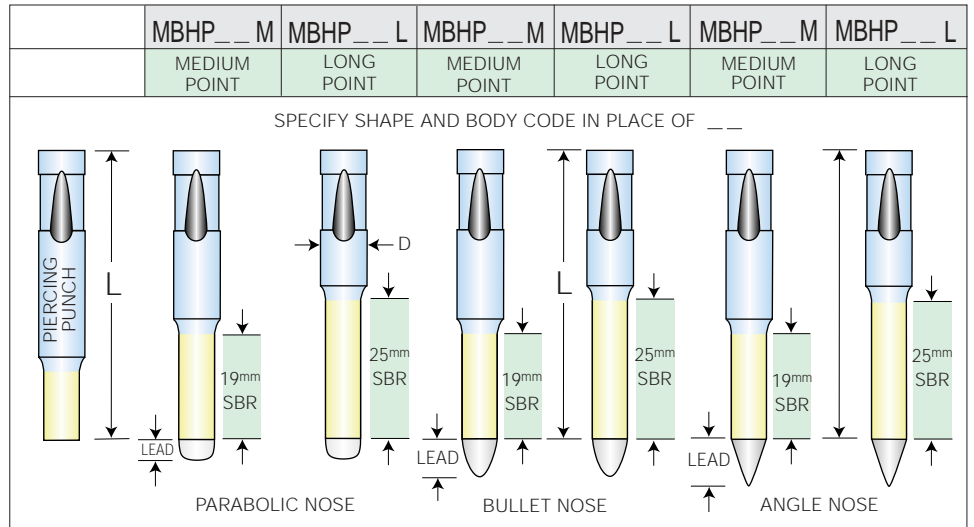


AVAILABLE SURFACE TREATMENTS
 IONITRIDING
 TITANIUM NITRIDE (TiN)
 TITANIUM CARBONITRIDE (TiCN)
 CHROMIUM NITRIDE (CrN)
 (TECHNICAL INFORMATION SEE PAGE 12)





PILOT BALL-LOCK HEAVY DUTY METRIC



LEAD LENGTH IS AUTOMATICALLY ADDED TO THE "L" DIMENSION ORDERED

PILOT CODE	PILOT NOSE STYLES	BODY & STEEL CODE M2	SBR CODE	LENGTHS								MIN. P DIM.													
				STANDARD				EXTENDED																	
				63	70	71	80	90	100	110	125		140	150											
MBHPP METRIC BALL-LOCK HEAVY DUTY PILOT PARABOLIC NOSE	<table border="1"> <thead> <tr> <th>"P" RANGE</th> <th>LEAD LENGTH</th> </tr> </thead> <tbody> <tr> <td>3 - 32 mm</td> <td>6 mm</td> </tr> </tbody> </table>	"P" RANGE	LEAD LENGTH	3 - 32 mm	6 mm	10	*M 19mm SBR STANDARD	0	•	•	•	•	•	•	•	•	•	3.0							
		"P" RANGE	LEAD LENGTH																						
		3 - 32 mm	6 mm																						
		13	•	•	•	•		•	•	•	•	•	•	•	•	5.0									
		16	•	•	•	•		•	•	•	•	•	•	•	•	•	8.0								
20	•	•	•	•	•	•	•	•	•	•	•	•	•	12.0											
25	•	•	•	•	•	•	•	•	•	•	•	•	•	16.0											
MBHPB METRIC BALL-LOCK HEAVY DUTY PILOT BULLET NOSE	<table border="1"> <thead> <tr> <th>"P" RANGE</th> <th>LEAD LENGTH</th> </tr> </thead> <tbody> <tr> <td>3. - 10.</td> <td>10</td> </tr> <tr> <td>10.1 - 15.</td> <td>15</td> </tr> <tr> <td>15.1 - 32.</td> <td>20</td> </tr> </tbody> </table>	"P" RANGE	LEAD LENGTH	3. - 10.	10	10.1 - 15.	15	15.1 - 32.	20	32	L 25mm SBR	•	•	•	•	•	•	•	•	•	•	24.0			
		"P" RANGE	LEAD LENGTH																						
		3. - 10.	10																						
10.1 - 15.	15																								
15.1 - 32.	20																								
40	•	•	•	•	•	•	•	•	•	•	•	•	•	30.0											
LONGER SBR AVAILABLE		LEAD LENGTH IS AUTOMATICALLY ADDED TO THE "L" DIMENSION ORDERED																							
MBHPA METRIC BALL-LOCK HEAVY DUTY PILOT ANGLE NOSE	<table border="1"> <thead> <tr> <th>"P" RANGE</th> <th>LEAD LENGTH</th> </tr> </thead> <tbody> <tr> <td>5.0 - 13.0</td> <td>10.0</td> </tr> <tr> <td>13.1 - 16.0</td> <td>15.0</td> </tr> <tr> <td>16.1 - 20.0</td> <td>20.0</td> </tr> <tr> <td>20.1 - 25.0</td> <td>25.0</td> </tr> <tr> <td>25.1 - 32.0</td> <td>30.0</td> </tr> <tr> <td>32.1 - 40.0</td> <td>40.0</td> </tr> </tbody> </table>	"P" RANGE	LEAD LENGTH	5.0 - 13.0	10.0	13.1 - 16.0	15.0	16.1 - 20.0	20.0	20.1 - 25.0	25.0	25.1 - 32.0	30.0	32.1 - 40.0	40.0										
		"P" RANGE	LEAD LENGTH																						
		5.0 - 13.0	10.0																						
		13.1 - 16.0	15.0																						
		16.1 - 20.0	20.0																						
		20.1 - 25.0	25.0																						
25.1 - 32.0	30.0																								
32.1 - 40.0	40.0																								

M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED.
*M-SBR IS SHIPPED UNLESS OTHERWISE SPECIFIED

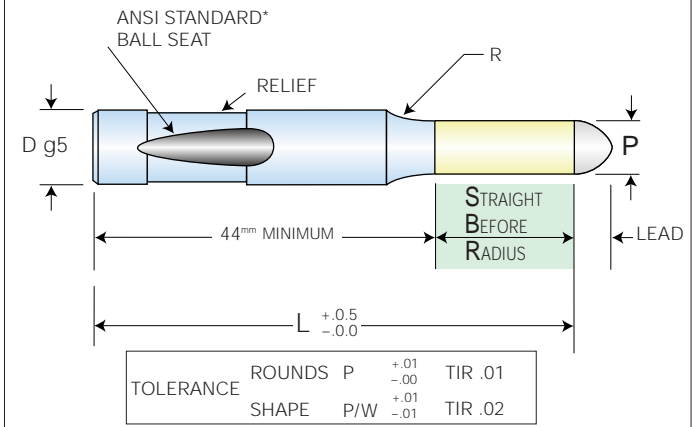
HOW TO ORDER: EXAMPLE						
Qty.	Pilot Style	Shape	Body & Steel	SBR Code	Length	P
2	MBHPB	C	16	M	90	14.0

ALL LEADS WILL ALLOW THE PILOT ENTER THE STOCK BY 2mm BEFORE THE PIERCING PUNCH ENTERS THE MATERIAL.

- SHAPE CODE**
 ROUND = C
 OBLONG = O
 RECTANGULAR = R (SQUARE)
 RADIUS RECTANGULAR = RR

- AVAILABLE SURFACE TREATMENTS**
 IONITRIDING
 TITANIUM NITRIDE (TiN)
 TITANIUM CARBONITRIDE (TiCN)
 CHROMIUM NITRIDE (CrN)

(TECHNICAL INFORMATION SEE PAGE 12)



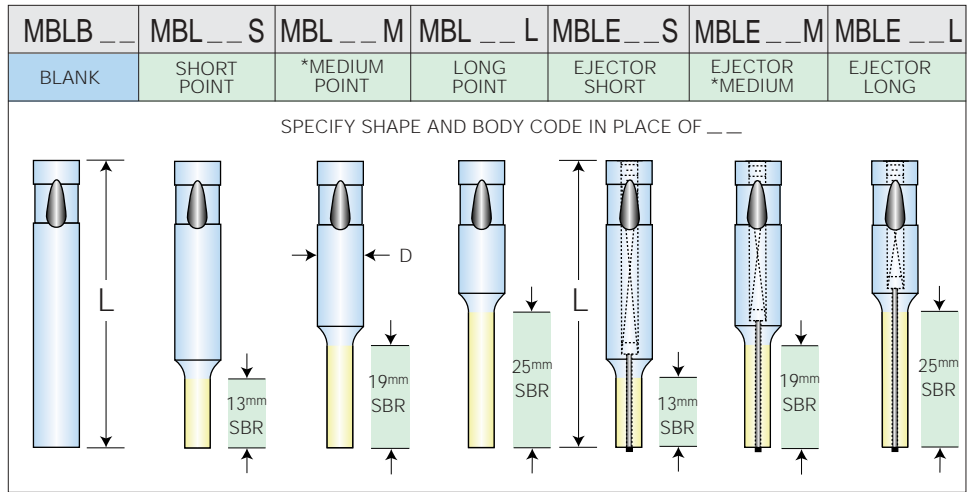


PUNCHES

BALL-LOCK

LIGHT DUTY

METRIC

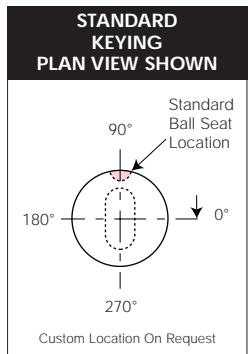


BAR LOCK CODE	SHAPE CODE	BODY & STEEL CODE		SBR CODE	LENGTHS										P/W MIN.	P/W EJECT. MIN.	USES EJECT. KIT			
		M2	A2		STANDARD					EXTENDED										
					50	56	63	71	80	90	100	110	125	140				150		
MBL METRIC BALL-LOCK LIGHT DUTY	C ROUND 	6	6A	S 13mm SBR	•	•	•	•	•	•	•	•	•	•	•	•	1.6	1.6	MEK3	
		10	10A		•	•	•	•	•	•	•	•	•	•	•	•	•	3.0	3.0	MEK4
		13	13A		•	•	•	•	•	•	•	•	•	•	•	•	•	4.5	4.5	MEK5
MBLE METRIC BALL-LOCK LIGHT DUTY EJECTOR	O OBLONG 	16	16A	*M 19mm SBR	•	•	•	•	•	•	•	•	•	•	•	•	6.0	6.0	MEK5	
		20	20A	STANDARD	•	•	•	•	•	•	•	•	•	•	•	•	•	8.0	8.0	MEK6
		25	25A	L 25mm SBR	•	•	•	•	•	•	•	•	•	•	•	•	•	10.0	10.0	MEK6
		32	32A		•	•	•	•	•	•	•	•	•	•	•	•	•	12.5	12.5	MEK6
		38	38A		•	•	•	•	•	•	•	•	•	•	•	•	•	14.0	14.0	MEK6

M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED
 *M-SBR IS SHIPPED UNLESS OTHERWISE SPECIFIED
 P OR G DIMENSION CANNOT EXCEED BODY DIAMETER
 EJECTOR PIN LOCKHOLE AVAILABLE ON REQUEST N/C

HOW TO ORDER: EXAMPLE

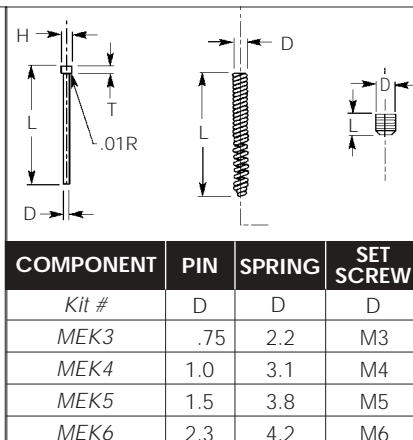
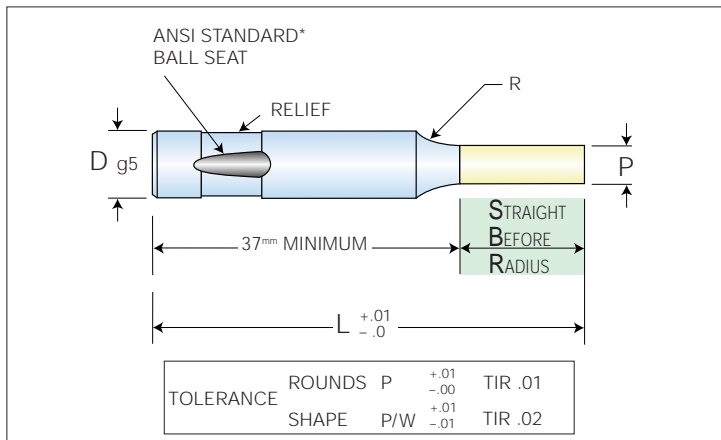
Qty.	Head Code	Shape	Body & Steel	SBR Code	Length	W x P
2	MBL	C	20	M	80	13
6	MBLE	O	25	M	80	13 x 23



AVAILABLE SURFACE TREATMENTS

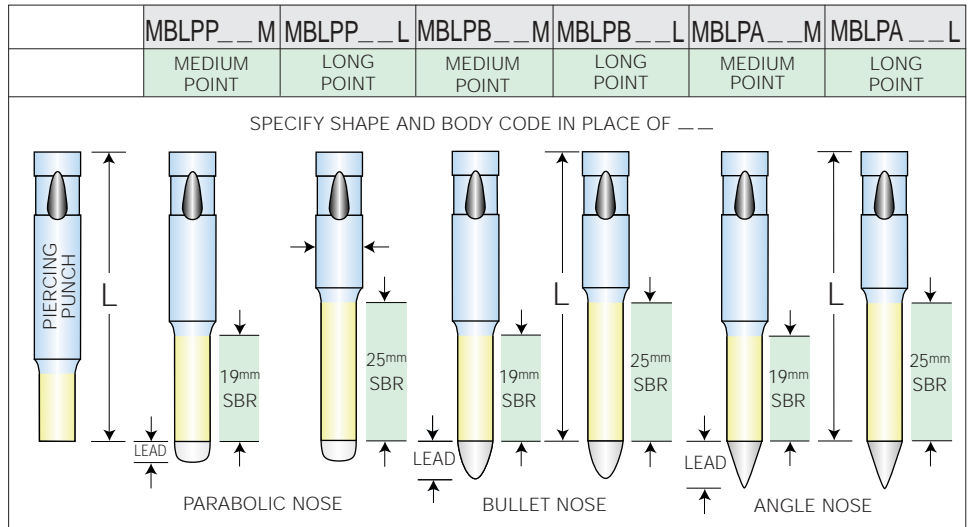
- IONITRIDING
- TITANIUM NITRIDE (TiN)
- TITANIUM CARBONITRIDE (TiCN)
- CHROMIUM NITRIDE (CrN)

(TECHNICAL INFORMATION SEE PAGE 12)





PILOT BALL-LOCK LIGHT DUTY METRIC



PILOT CODE	PILOT NOSE STYLES	BODY & STEEL CODE		SBR CODE	LENGTHS										MIN. P DIM.																	
		M2	A2		STANDARD					EXTENDED																						
					50	63	70	71	80	90	100	110	125	140		150																
MBLPP METRIC BALL-LOCK LIGHT DUTY PILOT PARABOLIC NOSE	<table border="1"> <tr> <th>"P" RANGE</th> <th>LEAD LENGTH</th> </tr> <tr> <td>3. - 32 mm</td> <td>6 mm</td> </tr> </table>	"P" RANGE	LEAD LENGTH	3. - 32 mm	6 mm	6	6A	*M 19mm SBR STANDARD	•	•	•	•	•	•	•	•	•	•	•	1.6												
		"P" RANGE	LEAD LENGTH																													
		3. - 32 mm	6 mm																													
		10	10A	•	•	•	•		•	•	•	•	•	•	•	•	•	3.0														
		13	13A	•	•	•	•		•	•	•	•	•	•	•	•	•	•	5.0													
16	16A	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8.0															
20	20A	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	12.0														
MBLPB METRIC BALL-LOCK LIGHT DUTY PILOT BULLET NOSE	<table border="1"> <tr> <th>"P" RANGE</th> <th>LEAD LENGTH</th> </tr> <tr> <td>3. - 10.</td> <td>10</td> </tr> <tr> <td>10.1 - 15.</td> <td>15</td> </tr> <tr> <td>15.1 - 32.</td> <td>20</td> </tr> </table>	"P" RANGE	LEAD LENGTH	3. - 10.	10	10.1 - 15.	15	15.1 - 32.	20	25	25A	L 25mm SBR	•	•	•	•	•	•	•	•	•	•	•	16.0								
		"P" RANGE	LEAD LENGTH																													
		3. - 10.	10																													
10.1 - 15.	15																															
15.1 - 32.	20																															
32	32A	•	•	•	•	•	•	•	•	•	•	•	•	•	•	24.0																
38	38A	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	31.0															
MBLPA METRIC BALL-LOCK LIGHT DUTY PILOT ANGLE NOSE	<table border="1"> <tr> <th>"P" RANGE</th> <th>LEAD LENGTH</th> </tr> <tr> <td>8.0 - 13.0</td> <td>10.0</td> </tr> <tr> <td>13.1 - 16.0</td> <td>15.0</td> </tr> <tr> <td>16.1 - 20.0</td> <td>20.0</td> </tr> <tr> <td>20.1 - 25.0</td> <td>25.0</td> </tr> <tr> <td>25.1 - 32.0</td> <td>30.0</td> </tr> <tr> <td>32.1 - 40.0</td> <td>40.0</td> </tr> </table>	"P" RANGE	LEAD LENGTH	8.0 - 13.0	10.0	13.1 - 16.0	15.0	16.1 - 20.0	20.0	20.1 - 25.0	25.0	25.1 - 32.0	30.0	32.1 - 40.0	40.0																	
		"P" RANGE	LEAD LENGTH																													
		8.0 - 13.0	10.0																													
		13.1 - 16.0	15.0																													
		16.1 - 20.0	20.0																													
20.1 - 25.0	25.0																															
25.1 - 32.0	30.0																															
32.1 - 40.0	40.0																															

LONGER SBR AVAILABLE

LEAD LENGTH IS AUTOMATICALLY ADDED TO THE "L" DIMENSION ORDERED

M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED.
*M-SBR IS SHIPPED UNLESS OTHERWISE SPECIFIED

HOW TO ORDER: EXAMPLE

Qty.	Pilot Style	Shape	Body & Steel	SBR Code	Length	P
2	MBLPB	C	16	M	90	10.0

ALL LEADS WILL ALLOW THE PILOT ENTER THE STOCK BY 2mm BEFORE THE PIERCING PUNCH ENTERS THE MATERIAL.

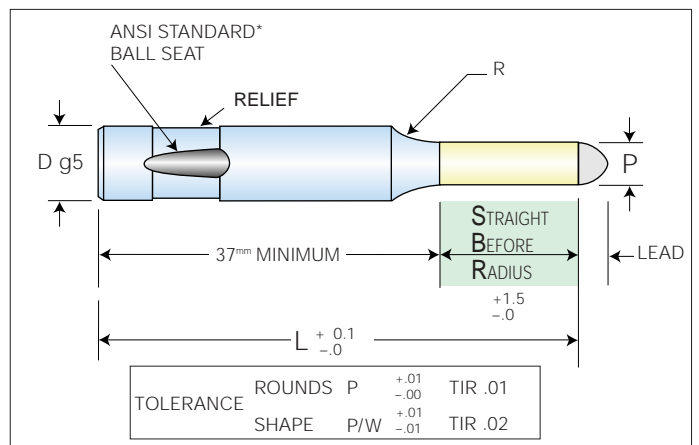
SHAPE CODE

- ROUND = C
- OBLONG = O
- RECTANGULAR = R (SQUARE)
- RADIUS RECTANGULAR = RR

AVAILABLE SURFACE TREATMENTS

- IONITRIDING
- TITANIUM NITRIDE (TiN)
- TITANIUM CARBONITRIDE (TiCN)
- CHROMIUM NITRIDE (CrN)

(TECHNICAL INFORMATION SEE PAGE 12)

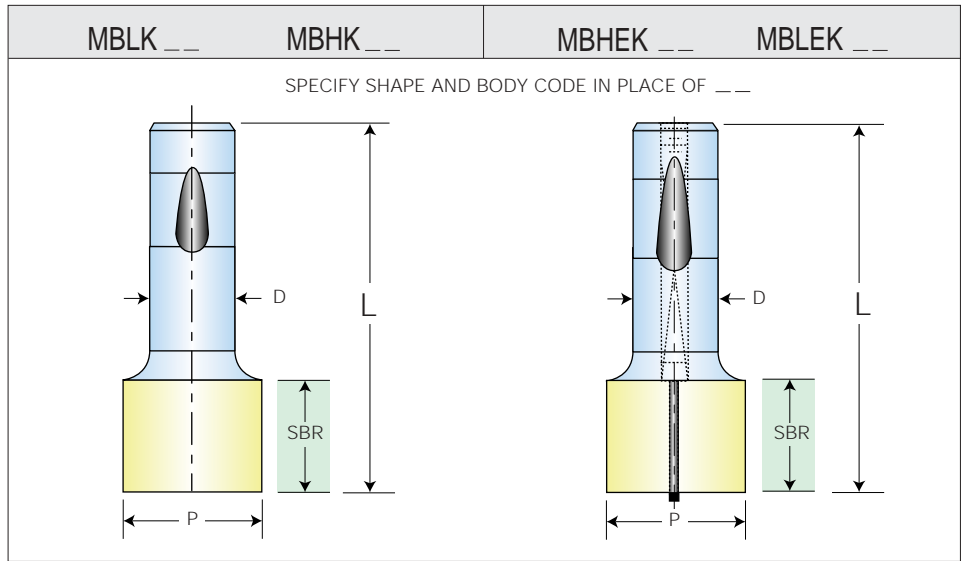




KNOB PUNCHES

BALL-LOCK
LIGHT DUTY
HEAVY DUTY

METRIC

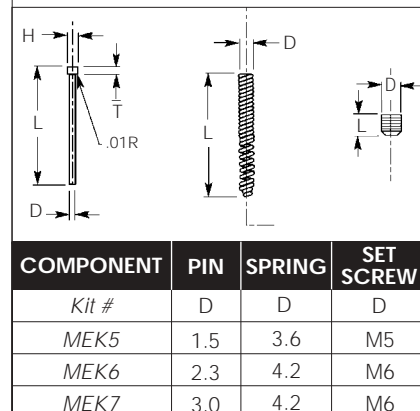
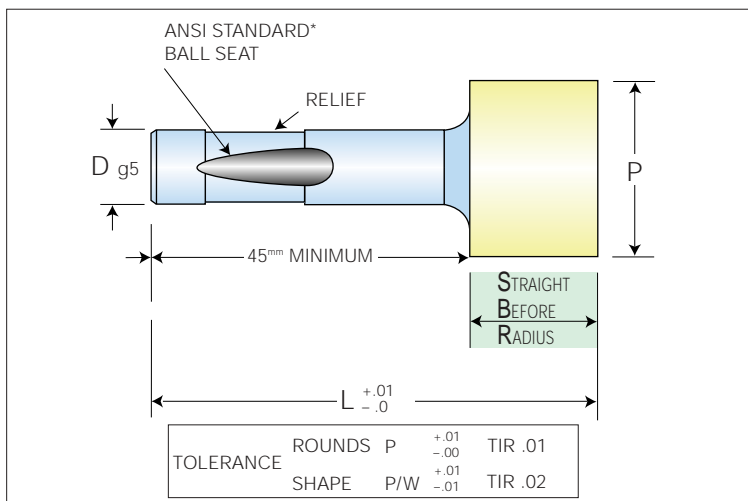


BAR LOCK CODE	SHAPE CODE	BODY & STEEL CODE		SBR CODE	STANDARD LENGTHS	MAX. P/G	MIN. W SHAPE	USES EJCT. KIT	STANDARD KEYING PLAN VIEW SHOWN
		M2	A2						
MBLK METRIC BALL-LOCK LIGHT DUTY KNOB	C ROUND 	13	13A	L 25mm SBR	80 - 90 - 100	32	4.5	MEK5	Standard Ball Seat Location Custom Location On Request
		16	16A		80 - 90 - 100	38	6.0	MEK5	
MBLEK METRIC BALL-LOCK LIGHT DUTY EJECTOR KNOB	O OBLONG 	20	20A		80 - 90 - 100	38	8.0	MEK6	
		25	25A		80 - 90 - 100	44	10.0	MEK6	
		32	32A		80 - 90 - 100	50	12.0	MEK6	
MBHK METRIC BALL-LOCK HEAVY DUTY KNOB	R RECTANGLE (SQUARE) 	40	40A		80 - 90 - 100	75	13.0	MEK7	

M2 STEEL IS SHIPPED UNLESS OTHERWISE SPECIFIED
SPECIAL LENGTHS SUPPLIED ON REQUEST
SPECIAL SBR SUPPLIED ON REQUEST

HOW TO ORDER: EXAMPLE						
Qty.	Head Code	Shape	Body & Steel	SBR Code	Length	P x W
2	MBHK	C	16	L	90	22
6	MBHEK	O	32	L	100	40 x 22

AVAILABLE SURFACE TREATMENTS
IONITRIDING
TITANIUM NITRIDE (TiN)
TITANIUM CARBONITRIDE (TiCN)
CHROMIUM NITRIDE (CrN)
(TECHNICAL INFORMATION SEE PAGE 12)



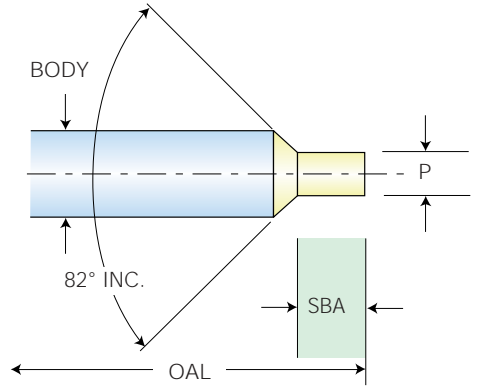


FORMING PUNCHES FOR HEADED STYLE BALL LOCK LIGHT STYLE - BALL LOCK HEAVY STYLE

WHEN ORDERING FORMING PUNCHES STATE THE HEAD CODE, SHAPE CODE, BODY DIA. & STEEL CODE. SEE PAGES 2, 6 OR 8.

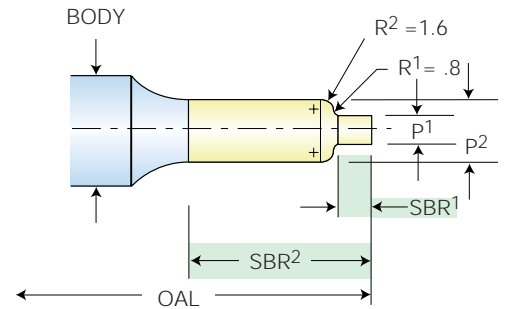
METRIC COUNTERSINK PUNCHES - MCK SERIES

HOW TO ORDER: EXAMPLE							
Qty.	STYLE Code	Shape	Body & Steel	SBA Code	Length	P	Keying
4	MBHCK	C	13	5	70	3	-



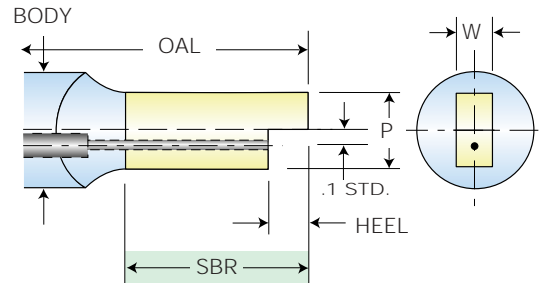
METRIC EXTRUSION PUNCHES - MX SERIES

HOW TO ORDER: EXAMPLE											
Qty.	STYLE Code	Shape	Body & Steel	SBR Code	Length	P1	P2	SBR1	SBR2	R1	R2
4	MBLX	C	16	19	80	2.5	.6	3.2	19	.8	1.6



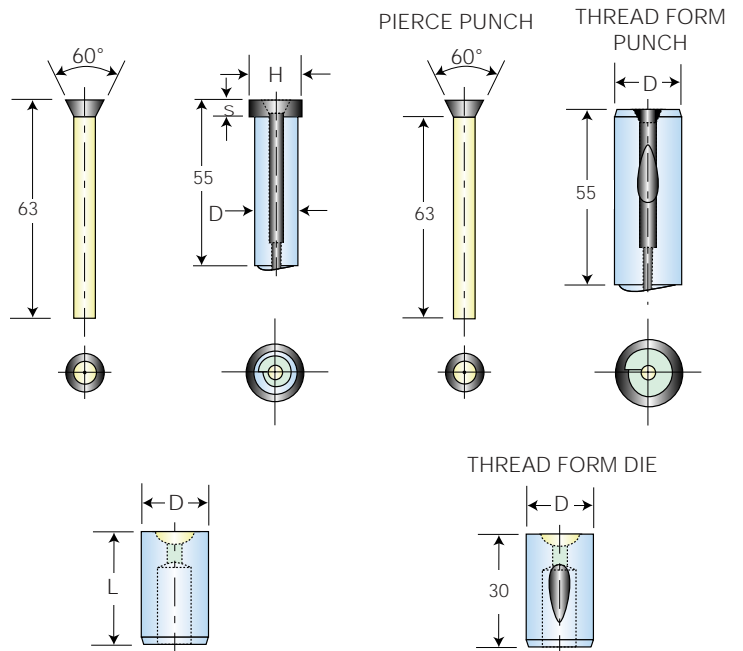
METRIC OFFSET EJECTOR WITH HEEL AVAILABLE

HOW TO ORDER: EXAMPLE								
Qty.	STYLE Code	Shape	Body Dia.	SBR Code	Length	P x W	Keying	Heel
2	MH	OEHR	16	M	80	9.75 x 6	-	6



METRIC THREAD FORMING TOOLS

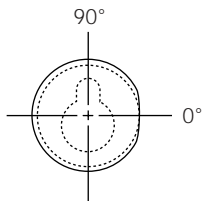
	THREAD SIZE	BODY DIA. D
A	2.9 x 1.1	10
	3.5 x 1.3	13
	3.9 x 1.4	13
	4.2 x 1.4	16
	4.8 x 1.6	16
	5.8 x 1.8	20
	6.3 x 1.8	20
AB	8.0 x 2.1	20
B	3.5 x 0.6	13
	4.0 x 0.7	13
	5.0 x 0.8	16
	6.0 x 1.0	16
	8.0 x 1.25	20



HOW TO ORDER: EXAMPLE			
Qty.	STYLE Code	Shape	Material Thickness
2	MBH	MTF3.5 x 1.3	24

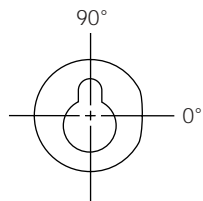


TECHNICAL INFORMATION



PUNCH

PLAN VIEW from the head end, of a punch shows the point shape with dotted lines.

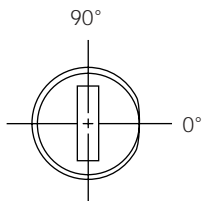


MATRIX DIE

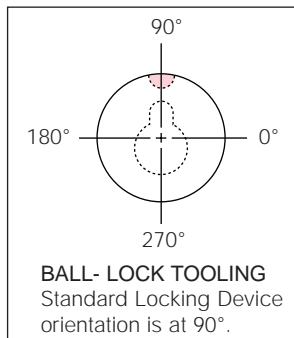
PLAN VIEW of a die shows the shape with solid lines.

HEAD TYPE TOOLING
Standard Locking Device orientation is at 0°.

REFLECTED VIEWS



PUNCH



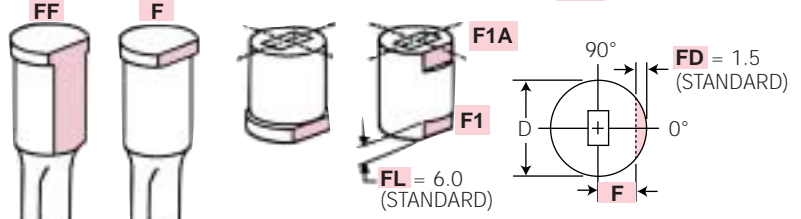
BALL- LOCK TOOLING
Standard Locking Device orientation is at 90°.



Reflected View - Punches
The Reflected View is the view as seen in a mirror when held below a punch or guide in its operating position.

NOTE: Must identify as REFLECTED VIEW on punch drawing.

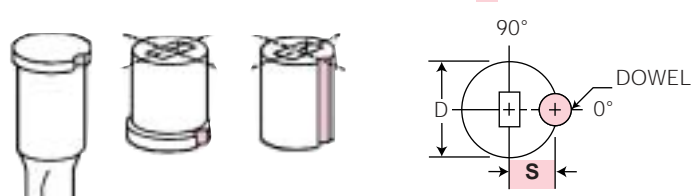
Flats ON HEADED PRODUCTS **F** = .5D
ON HEADLESS PRODUCTS **F** = .5D - 1.5 (FD)



SPECIAL FLATS SPECIFY F1 or F1A - FL - FD or F
- LOCATION DEGREES COUNTER CLOCKWISE

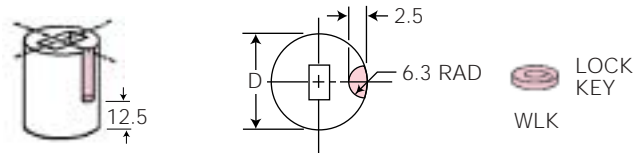
F1 = SINGLE FLAT
F2 = DOUBLE FLAT
FF = FULL LENGTH FLAT - SPECIFY FLAT DEPTH OR F DIMENSION

Dowel Slots HEADED PRODUCTS **S** = .5D + 1/2 DOWEL
HEADLESS PRODUCTS **S** = .5D



MDS3 = 3mm DOWEL SLOTS (STANDARD)
MDS4 = 4mm DOWEL SLOTS SPECIFY S DIMENSION
MDS6 = 6mm DOWEL SLOTS SPECIFY S DIMENSION

Windsor Lock



SURFACE ENHANCEMENTS

Exacta are leaders in the area of advanced treatments for punches and dies. We were the first company to offer plasma ionitride in North America, the first to advocate cryogenic treatment, and now offer a full range of modern physical vapor deposition (P.V.D.) treatments. We are one of the very few companies who perform all of these treatments **in-house**. Our heat treatment division, Exactatherm, is recognized to be a leader in the field of vacuum heat treatment and advanced surface treatments.

IONITRIDE: Ionitriding is a vacuum diffusion process which increases the hardness of the surface of Punches and lowers the coefficient of friction, making it a cost efficient method of increasing wear life of Punches and at the same time lowering the stripping pressure in stamping and extrusion operations. The process temperature is between 900/950 deg F. and the hardness on the surface is not as a result of an external layer but of hardness built up **under** the surface by a metallurgical reaction between Nitrogen and the tool steel, because of this the hardened layer cannot flake off. Surface hardness of Rc70/72 when applied to M2 HSS.

TITANIUM NITRIDE: The original P.V.D. coating with its typical gold coloration. The Ti N layer is usually 2-3 microns thick and is very hard (Equivalent to Rc80/82), and gives excellent wear and galling resistance in light to medium stamping operations. The core hardness of M2 is unaffected by this process but the core hardness of air hardening steels (A2 & D2) typically will drop 2 to 3 points to (Rc57/59).

TITANIUM CARBO-NITRIDE: Ti CN can exist over a range of compositions and the coloration can vary from bronze, through pink to grey. This coating is usually 2-5 microns thick, with an equivalent hardness of Rc 86/90 and is extremely abrasion resistant. An excellent choice when stamping abrasive high tensile strength materials. The temperature of application is the same as for Ti N (600 deg F/850 deg F) and as such does not effect the core hardness of M2, but will drop A2 and D2 by 2 to 3 points (Rc57/59).

CHROMIUM NITRIDE: Metallic silver in colour, with an equivalent of Rc76/80, CrN can be deposited thicker than TiN or TiCN and still have excellent adhesion. Usually the first choice for extrusion and piercing of heavier gauge materials, its galling resistance is excellent.

CRYOGENIC TREATMENT: This treatment can be applied to all tool steels including M2, A2 and D2, but is also successful on O-1, S-7 and 521000. This is not a surface treatment, but a process that affects the **whole tool**. By taking the tool down to **-320 deg F** the microstructure of the steel is modified and homogenized. This results in a tougher steel (less chipping), increase in wear resistance, and will hold long term dimensional tolerances better than any other treatment. The external appearance is unchanged. A must for close tolerance, heavily loaded tooling such as fine - blanking. Can be used in conjunction **with** any of the other surface treatments.



METRIC RETAINERS FOR METRIC HEAVY & LIGHT DUTY PUNCHES TRIANGLE STYLE

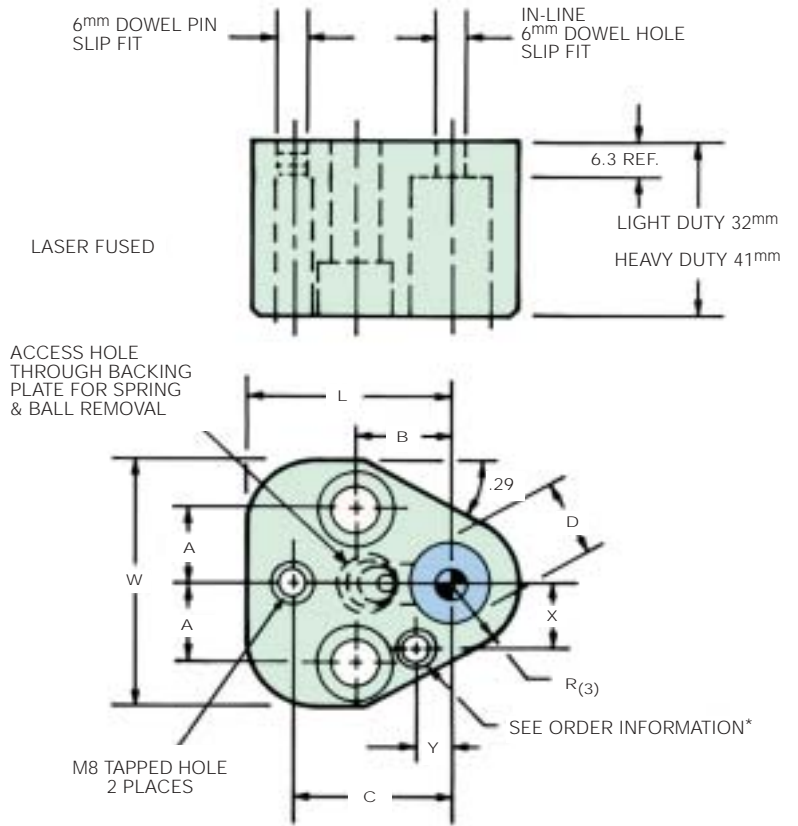
Order Information

Retainer Includes:

- 1 Ball & Spring
- 2 Screws
- 2 Round Air Vented Dowel Pins
Note: All 6mm dowels are tapped for easy removal
- 1 Ball Release Set Screw
- 1 Jam Screw for Access Hole

Specify: Quantity and Catalogue Number
Example: 6 pcs., MRL20

*The third dowel hole will be ground slip fit for a .6mm dowel pin upon request, see example.



TYPE		HOLE DIA.	± 0.13	± 0.13			± 0.01		± 0.13	± 0.13	IN-LINE DOWEL	SCREW
LIGHT DUTY	HEAVY DUTY	"D"	"A"	"B"	"L"	"R"	"C"	"W"	"X"	"Y"		
*MRL06		06	11.12	19.05	27.0	8.0	23.000	37.5	8.00	9.00	3.0	M 6
MRL10	MRH10	10	11.12	19.05	35.0	9.5	26.925	40.9	9.00	7.50	6.0	M 8
MRL13	MRH13	13	14.27	19.05	38.1	12.7	29.970	47.2	12.00	6.50	6.0	M 8
MRL16	MRH16	16	15.87	19.05	39.7	14.3	31.750	50.3	13.50	6.00	6.0	M 8
MRL20	MRH20	20	17.47	19.05	42.8	17.5	33.530	56.9	16.50	5.00	6.0	M 10
MRL25	MRLH25	25	19.84	23.82	47.7	22.2	40.640	66.3	22.00	7.00	6.0	M 12
MRL32	MRLH32	32	19.84	23.82	47.7	22.2	40.640	66.3	22.00	7.00	6.0	M 12
*MRL38		38	24.00	27.00	51.4	26.0	43.993	76.7	26.00	10.00	6.0	M 12
	MRLH40	40	24.00	27.00	51.4	26.0	43.993	76.7	26.00	10.00	6.0	M 12



METRIC URETHANE Sheets, Rods, Bars, Tubes

Cataloged standard sizes in 90 Shore Durometer are available from stock for most all needs. Urethane has extreme load-bearing capacity and is abrasion resistance. Urethane has excellent resilience and memory qualities and returns to its original shape with minimal deterioration. It is unaffected by oil, grease and most chemicals and solvents.

URETHANE offers more than 3 times the wear life characteristics of natural rubber. Will not mar, scratch, dent or gouge most painted, galvanized or soft metal surfaces. Ideal for pressure pads, forming blocks, stripping pads, draw dies, embossing dies, bulging punches, strippers, springs or shredders.

URETHANE is also available in the full range of hardnesses for that SPECIAL JOB.

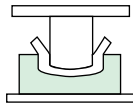
Solid Bars

Bars may be used in press brake tooling, as pressure pads or as a replacement for long rows of steel springs.

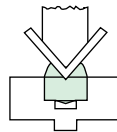
Solid Rods

Rods of URETHANE are incomparable in bulging operations, roll forming and as individual springs.

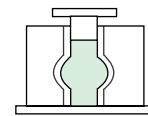
URETHANE* forms any angle, adapts to practically any shape and is easy to install for a wide range of metalworking and stamping operations.



URETHANE* helps to eliminate wrinkles caused by drawing in the air.



URETHANE* produces better definition and sharper bends.



Mar-free tubular and even convolute forms can be bulged with long-lasting URETHANE*

Stocked Hardness - 90 DUROMETER Stocked Length 305^{mm} Plus

Other Hardness & Sizes Available on Request

METRIC URETHANE SHEETS

STD. 305^{mm} SQUARE



THICKNESS	CAT. NUMBER
3	MUS3
6	MUS6
10	MUS10
13	MUS13
16	MUS16
19	MUS19
25	MUS25
32	MUS32
38	MUS38
50	MUS50

METRIC URETHANE BARS

STD. LENGTH 305^{mm}



SIZE	CAT. NUMBER
25 x 25	MUB25x25
25 x 50	MUB25x50
25 x 75	MUB25x75
25 x 100	MUB25x100
50 x 50	MUB50x50
50 x 75	MUB50x75
50 x 100	MUB50x100
75 x 75	MUB75x75
75 x 100	MUB75x100
100 x 100	MUB100x100

METRIC URETHANE RODS

STD. LENGTH 305^{mm}



DIA.	CAT. NUMBER
3	MUR3
6	MUR6
10	MUR10
13	MUR13
16	MUR16
19	MUR19
22	MUR22
25	MUR25
30	MUR30
32	MUR32
38	MUR38
50	MUR50
65	MUR65
75	MUR75
100	MUR100
150	MUR150

URETHANE TUBES

STD. LENGTH - 305^{mm}



Light Duty

CAT. NUMBER	I.D.	O.D.
MUTL6	6	19
MUTL8	8	21
MUTL10	10	23
MUTL13	13	26
MUTL16	16	30
MUTL20	20	38
MUTL25	25	44
MUTL32	32	60

Heavy Duty

CAT. NUMBER	I.D.	O.D.
MUTH13	13	30
MUTH16	16	32
MUTH20	20	38
MUTH25	25	50

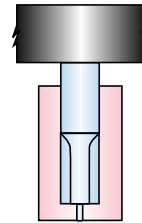
DUROMETER SHORE HARDNESS	COLOUR CODE	MAXIMUM DEFLECTION
60A	YELLOW	40%
80A	BLUE	30%
STD 90A	GREEN	25%
95A	RED	20%
75D	BLACK	5%



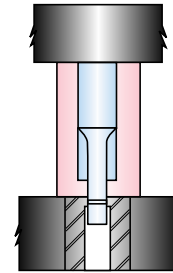
METRIC URETHANE Closed End Strippers

A hard, tough urethane with extreme loadbearing capacity and abrasion resistance, also offers the desired resilience for extensive deformation with minimum deterioration.

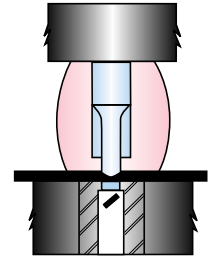
Urethane Strippers assure positive stripping and at the same time dampen punch vibration by gripping around the punch point. The closed end feature holds thin stock flat during the stripping cycle, eliminating the potential for rejected parts.



Push On

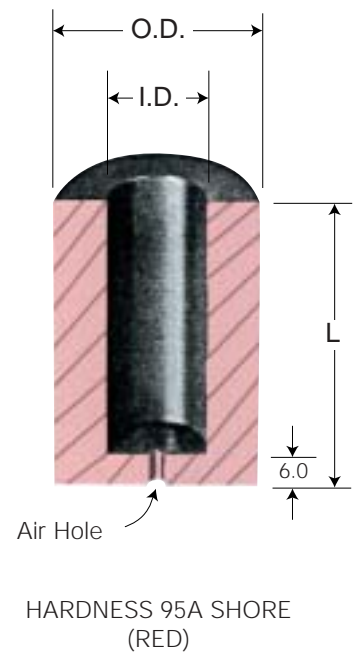


Punch shape in end of stripper

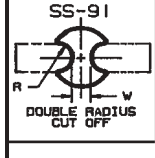
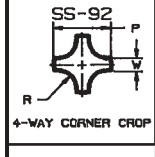
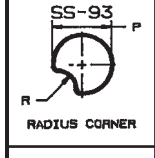
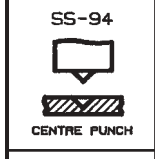
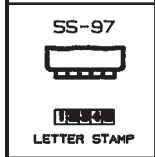
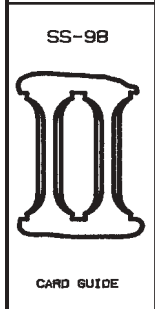
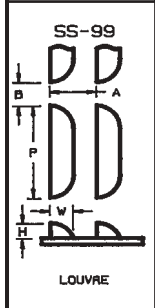
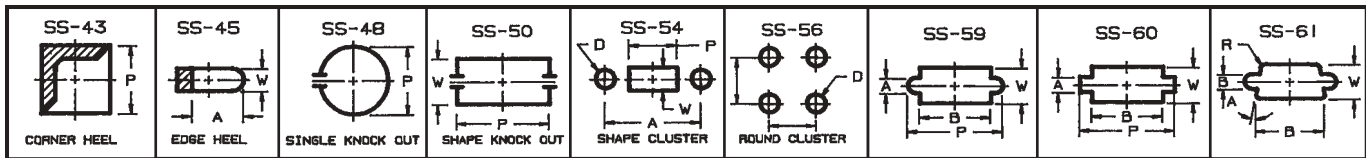


Punch Material

CAT. NO.	FITS PUNCH SHANK (A)	OUTSIDE DIA.	LENGTH L	APPROXIMATE STRIPPING PRESSURE AT DEFLECTION OF		
				3.0 mm	6.5 mm	9.5 mm
MUCS6	6	19	45	135	230	-
			53	110	190	240
			71	70	110	180
MUCS8	8	21	45	150	225	-
			53	135	200	300
			71	100	165	270
MUCS10	10	23	45	175	285	-
			53	145	250	325
			56	145	250	325
MUCS13	13	26	45	215	340	-
			53	150	240	350
			56	150	240	300
MUCS16	16	30	45	240	390	-
			53	220	360	460
			56	220	360	460
MUCS20	20	38	45	250	400	-
			53	220	370	570
			71	165	300	475
MUCS25	25	50	45	950	1460	-
			53	750	1180	1630
			71	500	850	1375



HOW TO ORDER: EXAMPLE		
Qty.	CAT. No.	Length
6	MUCS50	71



INCH • DECIMAL • METRIC CONVERSION CHARTS

MILLIMETERS TO DECIMALS

mm	decimal	mm	decimal	mm	decimal	mm	decimal
0.01	.00039	0.51	.02008	1	.03937	51	2.00787
0.02	.00079	0.52	.02047	2	.07874	52	2.04724
0.03	.00118	0.53	.02087	3	.11811	53	2.08661
0.04	.00157	0.54	.02126	4	.15748	54	2.12598
0.05	.00197	0.55	.02165	5	.19685	55	2.16535
0.06	.00236	0.56	.02205	6	.23622	56	2.20472
0.07	.00276	0.57	.02244	7	.27559	57	2.24409
0.08	.00315	0.58	.02283	8	.31496	58	2.28346
0.09	.00354	0.59	.02323	9	.35433	59	2.32283
0.10	.00394	0.60	.02362	10	.39370	60	2.36220
0.11	.00433	0.61	.02402	11	.43307	61	2.40157
0.12	.00472	0.62	.02441	12	.47244	62	2.44094
0.13	.00512	0.63	.02480	13	.51181	63	2.48031
0.14	.00551	0.64	.02520	14	.55118	64	2.51969
0.15	.00591	0.65	.02559	15	.59055	65	2.55906
0.16	.00630	0.66	.02598	16	.62992	66	2.59843
0.17	.00669	0.67	.02638	17	.66929	67	2.63780
0.18	.00709	0.68	.02677	18	.70866	68	2.67717
0.19	.00748	0.69	.02717	19	.74803	69	2.71654
0.20	.00787	0.70	.02756	20	.78740	70	2.75591
0.21	.00827	0.71	.02795	21	.82677	71	2.79528
0.22	.00866	0.72	.02835	22	.86614	72	2.83465
0.23	.00906	0.73	.02874	23	.90551	73	2.87402
0.24	.00945	0.74	.02913	24	.94488	74	2.91339
0.25	.00984	0.75	.02953	25	.98425	75	2.95276
0.26	.01024	0.76	.02992	26	1.02362	76	2.99213
0.27	.01063	0.77	.03032	27	1.06299	77	3.03150
0.28	.01102	0.78	.03071	28	1.10236	78	3.07087
0.29	.01142	0.79	.03110	29	1.14173	79	3.11024
0.30	.01181	0.80	.03150	30	1.18110	80	3.14961
0.31	.01220	0.81	.03189	31	1.22047	81	3.18898
0.32	.01260	0.82	.03228	32	1.25984	82	3.22835
0.33	.01299	0.83	.03268	33	1.29921	83	3.26772
0.34	.01339	0.84	.03307	34	1.33858	84	3.30709
0.35	.01378	0.85	.03346	35	1.37795	85	3.34646
0.36	.01417	0.86	.03386	36	1.41732	86	3.38583
0.37	.01457	0.87	.03425	37	1.45669	87	3.42520
0.38	.01496	0.88	.03465	38	1.49606	88	3.46457
0.39	.01535	0.89	.03504	39	1.53543	89	3.50394
0.40	.01575	0.90	.03543	40	1.57480	90	3.54331
0.41	.01614	0.91	.03583	41	1.61417	91	3.58268
0.42	.01654	0.92	.03622	42	1.65354	92	3.62205
0.43	.01693	0.93	.03661	43	1.69291	93	3.66142
0.44	.01732	0.94	.03701	44	1.73228	94	3.70079
0.45	.01772	0.95	.03740	45	1.77165	95	3.74016
0.46	.01811	0.96	.03780	46	1.81102	96	3.77953
0.47	.01850	0.97	.03819	47	1.85039	97	3.81890
0.48	.01890	0.98	.03858	48	1.88976	98	3.85827
0.49	.01929	0.99	.03898	49	1.92913	99	3.89764
0.50	.01969	1.00	.03937	50	1.96850	100	3.93701

INCHES	DECIMAL	MILLIMETER
1/64	.01562	.03968
1/32	.03125	0.7937
3/64	.04687	1.1906
1/16	.0625	1.5875
5/64	.07812	1.9843
3/32	.09375	2.3812
7/64	.10937	2.7780
1/8	.1250	3.1749
9/64	.14062	3.5718
5/32	.15625	3.9686
11/64	.17187	4.3655
3/16	.1875	4.7624
13/64	.20312	5.1592
7/32	.21875	5.5561
15/64	.23437	5.9530
1/4	.2500	6.3498
17/64	.26562	6.7467
9/32	.28125	7.1436
19/64	.29687	7.5404
5/16	.3125	7.9373
21/64	.32812	8.3342
11/32	.34375	8.7310
23/64	.35937	9.1279
3/8	.3750	9.5248
25/64	.39062	9.9216
13/32	.40625	10.3185
27/64	.42187	10.7154
7/16	.4375	11.1122
29/64	.45312	11.5091
15/32	.46875	11.9060
31/64	.48437	12.3029
1/2	.5000	12.6997
33/64	.51562	13.0966
17/32	.53125	13.4934
35/64	.54687	13.8903
9/16	.5625	14.2872
37/64	.57812	14.6841
19/32	.59375	15.0809
39/64	.60937	15.4778
5/8	.6250	15.8747
41/64	.64062	16.2715
21/32	.65625	16.6684
43/64	.67187	17.0653
11/16	.6875	17.4621
45/64	.70312	17.8590
23/32	.71875	18.2559
47/64	.73437	18.6527
3/4	.7500	19.0496
49/64	.76562	19.4465
25/32	.78125	19.8433
51/64	.79687	20.2402
13/16	.8125	20.6371
53/64	.82812	21.0339
27/32	.84375	21.4308
55/64	.85937	21.8277
7/8	.8750	22.2245
57/64	.89062	22.6214
29/32	.90625	23.0183
59/64	.92187	23.4151
15/16	.9375	23.8120
61/64	.95312	24.2089
31/32	.96875	24.6057
63/64	.98437	25.0026
1	1.0000	25.3995

STANDARD PRODUCTS FROM EXACTA INCLUDE:

BRAKE DIES
EUROPEAN (AMADA) STYLE
NORTH AMERICAN PRECISION
GROUND

DIE SUPPLIES
DIE SPRINGS
DIE MAKERS SUPPLIES
SELF LUBE PROTECTS
CAM UNITS
NITROGEN GAS SPRINGS
IN DIE TAPPING UNITS

DIE SET TOOLING FOR STAMPING
CARBIDE PUNCHES & DIES
CARBIDE PREFORM SECTIONS
SPECIAL PUNCHES TO DRAWING

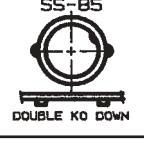
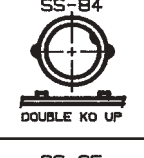
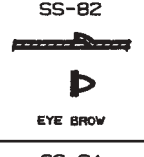
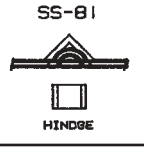
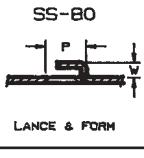
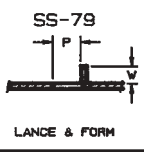
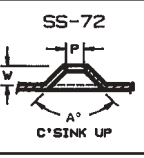
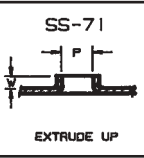
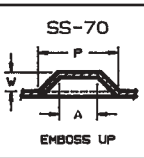
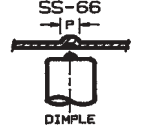
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CLAMPS AND PARTS FOR ALL CNC
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