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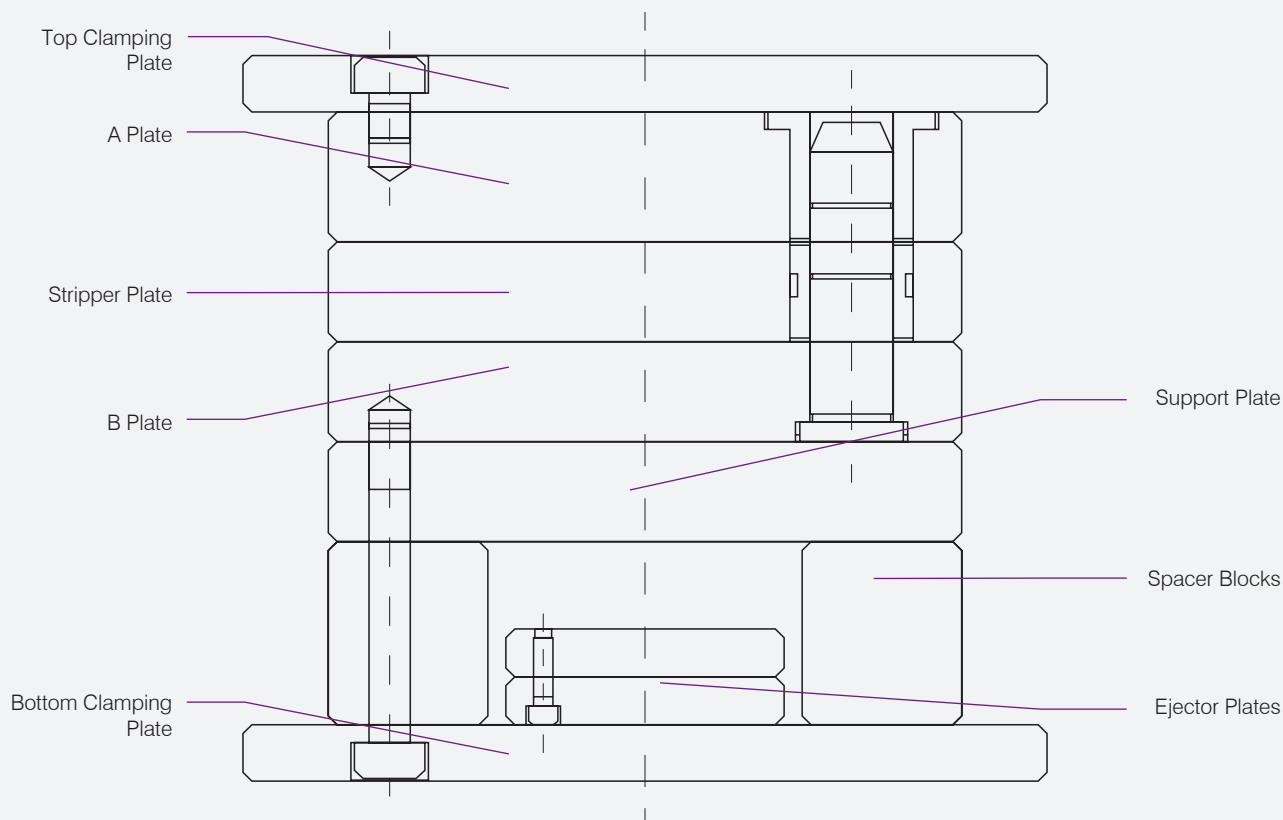
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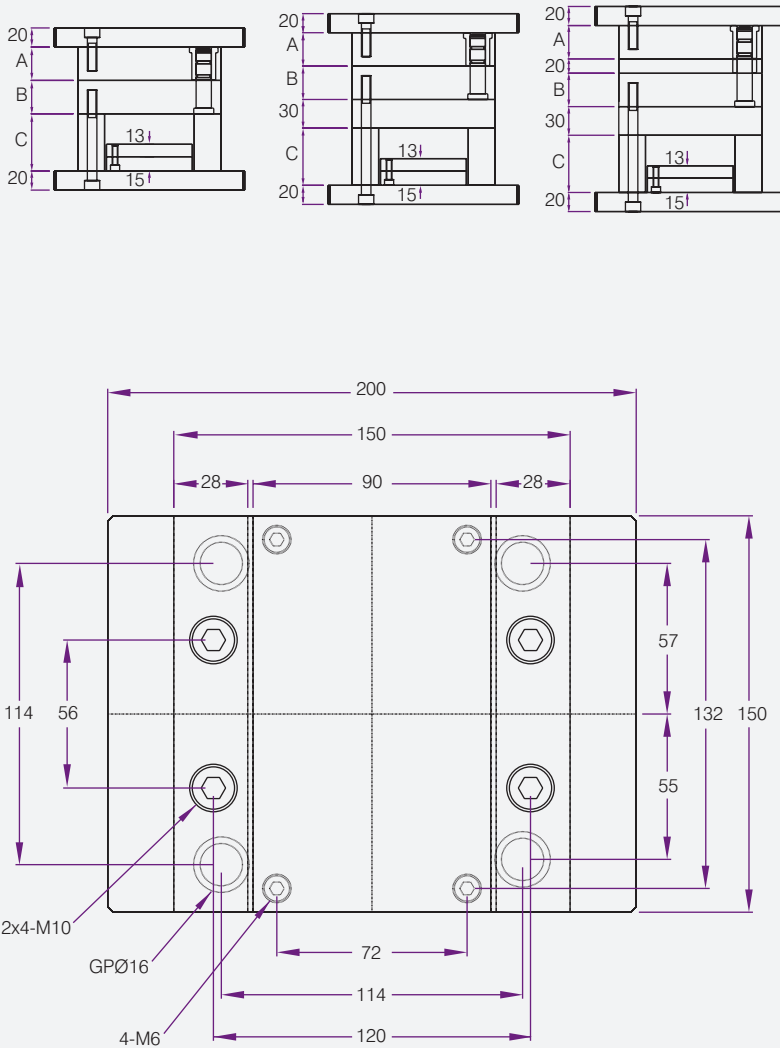


All standard mould bases 600mm x 600mm and over have lifting holes.

For non standard mould base quotes please refer to last page for size specification template.

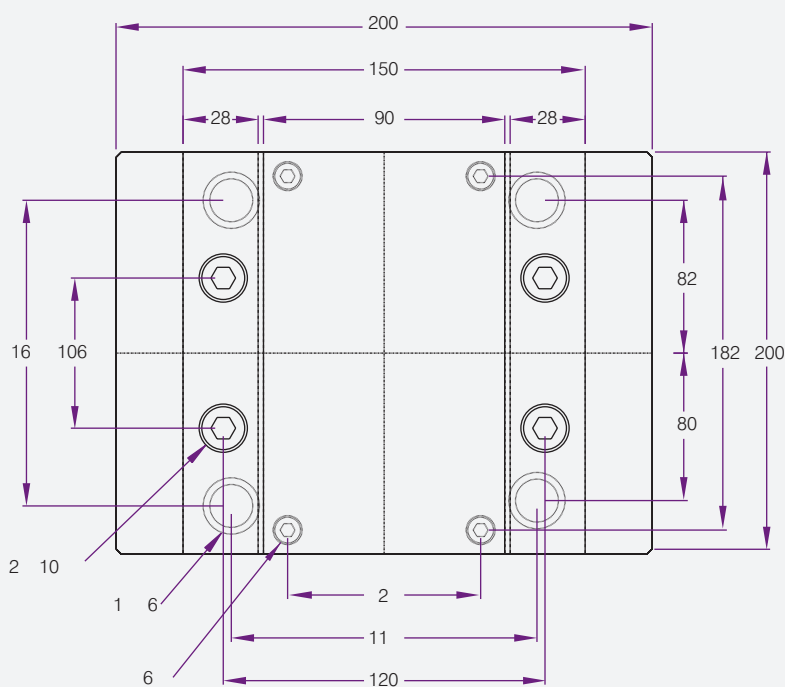
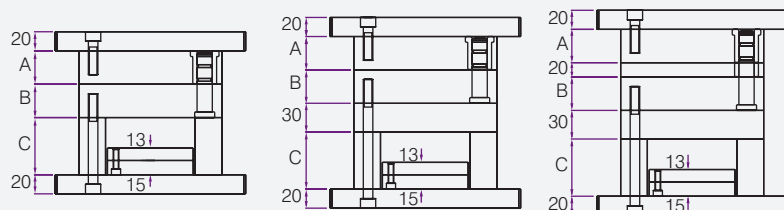
Plate Type	Material	Thickness Tolerance	Length Tolerance	Width Tolerance
Top Clamping Plate	SC50	+0.5/0	+0.3/+0.1	+0.4/+0.1
A Plate	2311 or equivalent	+0.5/0	+1./+0.3	+1.0/+0.3
Stripper Plate (C Type)	2311 or equivalent	+0.5/0	+0.3/+0.1	+0.4/+0.1
B Plate	2311 or equivalent	+0.5/0	+1./+0.3	+1.0/+0.3
Support Plate	SC50	+0.5/0	+0.3/+0.1	+0.4/+0.1
Spacer Blocks	SC50 -+0.17/+0.15 (c) 30-40 series +0/-10 (b) above 300mm	(a) 300mm or less (b) 25 series = +/-0.8 (d) 45 series plus = +0/-1.2	+0.3/+0.1 +0.17/+0.13	(a) 15-20 series = +0/-0.5
Ejector Plates	SC50	+0.5/0	+0.3/+0.1	+0.4/+0.1
Bottom Clamping Plate	SC50	+0.5/0	+0.3/+0.1	+0.4/+0.1

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



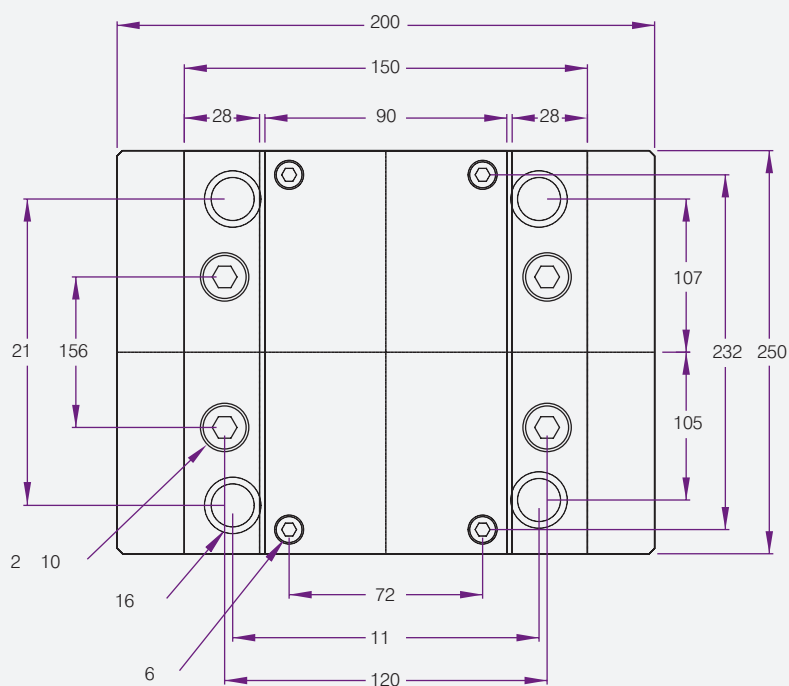
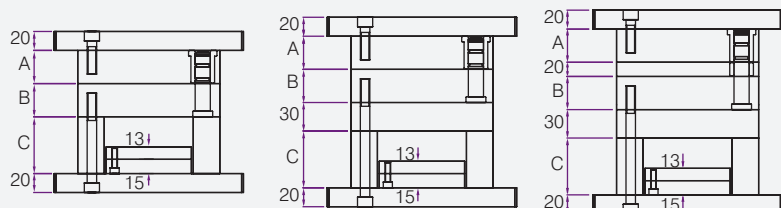
A Fixed Plate	B Moving Plate	C Spacer Block
25	25	60
25	30	60
25	35	60
25	40	60
25	50	70
25	60	80
30	25	60
30	30	60
30	35	60
30	40	60
30	50	70
30	60	80
35	25	60
35	30	60
35	35	60
35	40	60
35	50	70
35	60	80
40	25	60
40	30	60
40	35	60
40	40	60
40	50	70
40	60	80
50	25	60
50	35	60
50	40	60
50	50	70
50	60	80
60	25	60
60	30	60
60	35	60
60	40	60
60	50	70
60	60	80
70	40	60
70	50	70
70	60	80
70	70	80

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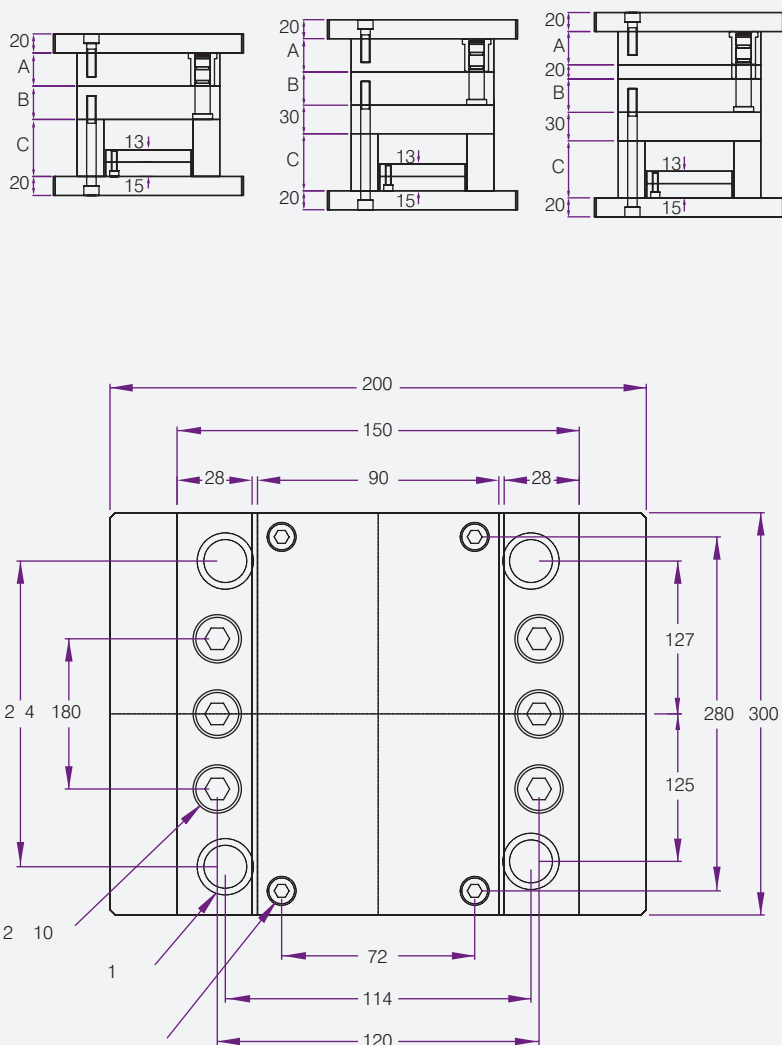
A Fixed Plate	B Moving Plate	C Spacer Block
25	25	60
25	30	60
25	35	60
25	40	60
25	50	70
25	60	80
30	25	60
30	30	60
30	35	60
30	40	60
30	50	70
30	60	80
35	25	60
35	30	60
35	35	60
35	40	60
35	50	70
35	60	80
40	25	60
40	30	60
40	35	60
40	40	60
40	50	70
40	60	80
50	25	60
50	35	60
50	40	60
50	50	70
50	60	80
60	25	60
60	30	60
60	35	60
60	40	60
60	50	70
60	60	80
70	40	60
70	50	70
70	60	80
70	70	80

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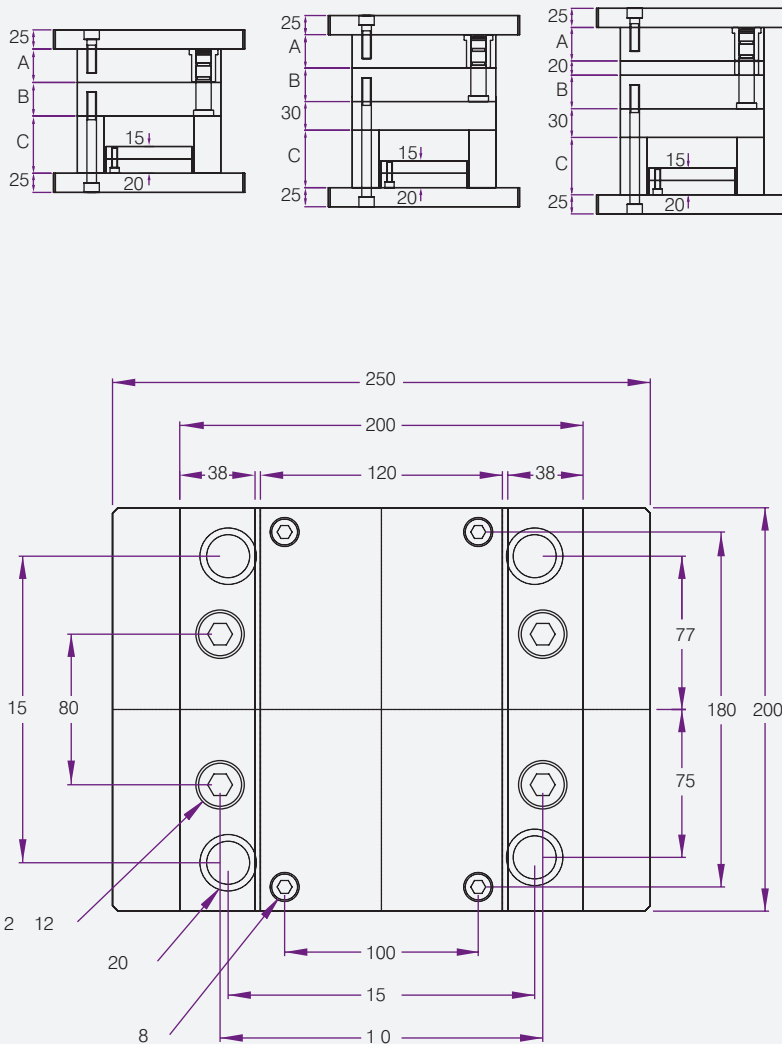
A Fixed Plate	B Moving Plate	C Spacer Block
25	25	60
25	30	60
25	35	60
25	40	60
25	50	70
25	60	80
30	25	60
30	30	60
30	35	60
30	40	60
30	50	70
30	60	80
35	25	50
35	30	60
35	35	60
35	40	60
35	50	70
35	60	80
40	25	60
40	30	60
40	35	60
40	40	60
40	50	70
40	60	80
50	30	60
50	35	60
50	40	60
50	50	70
50	60	80
60	30	60
60	35	60
60	40	60
60	50	70
60	60	80
70	40	60
70	50	70
70	60	80
70	70	80

4



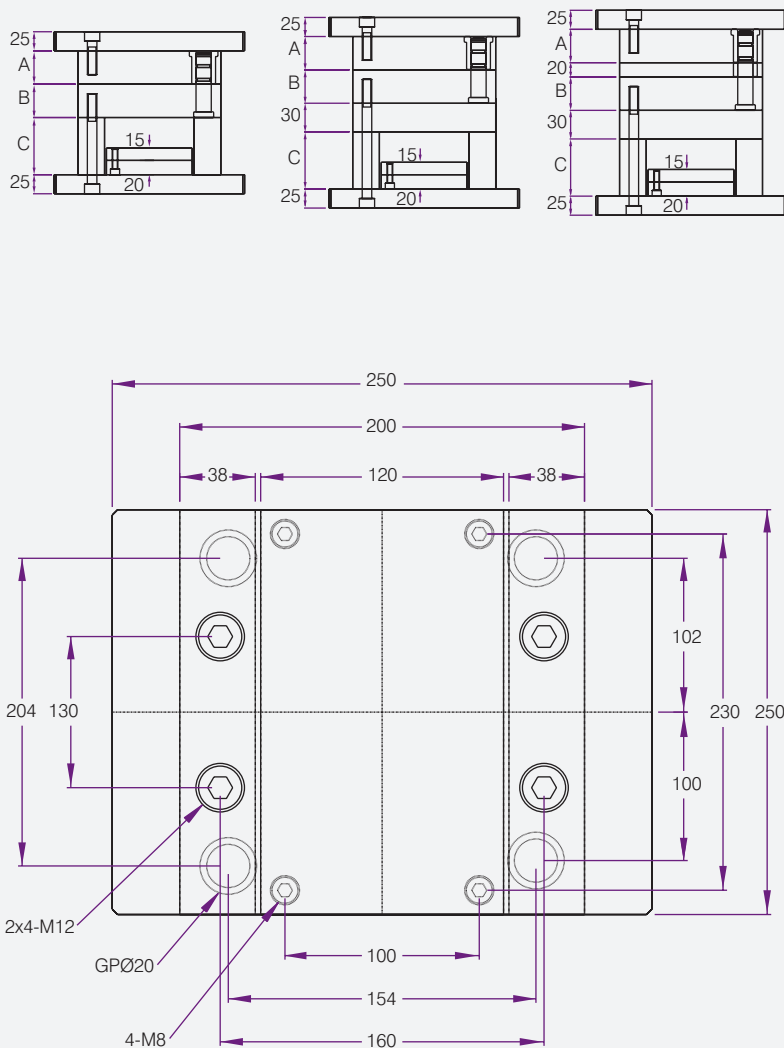
A Fixed Plate	B Moving Plate	C Spacer Block
25	25	60
25	30	60
25	35	60
25	40	60
25	50	70
25	60	80
30	25	60
30	30	60
30	35	60
30	40	60
30	50	80
30	60	80
35	25	60
35	30	60
35	35	60
35	40	60
35	50	80
35	60	80
40	25	60
40	30	60
40	35	60
40	40	60
40	50	70
40	60	80
50	25	60
50	30	60
50	35	60
50	40	60
50	50	70
50	60	80
60	25	60
60	30	60
60	35	60
60	40	60
60	50	70
60	60	80
70	40	60
70	50	70
70	60	80
70	70	80

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



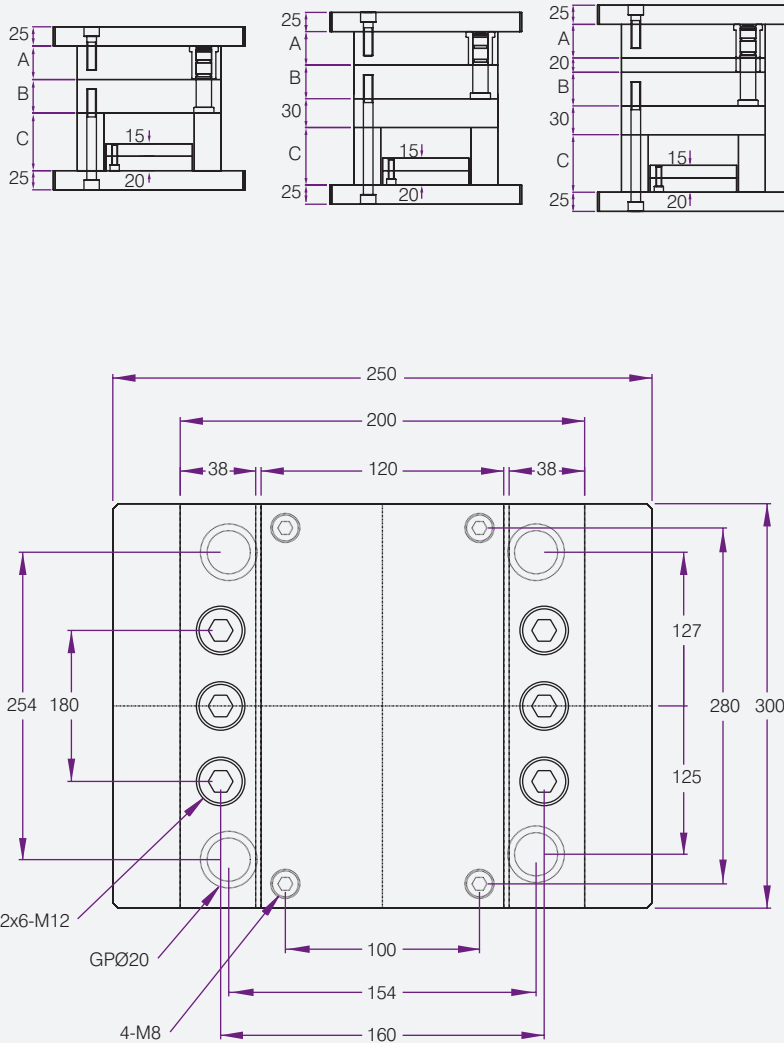
A Fixed Plate	B Moving Plate	C Spacer Block
25	25	70
25	30	70
25	35	70
25	40	70
25	50	70
25	60	70
30	25	70
30	30	70
30	40	70
30	50	80
30	60	80
35	25	70
35	30	70
35	35	70
35	40	70
35	50	80
35	60	80
40	25	70
40	30	70
40	35	70
40	40	70
40	50	80
40	60	80
50	25	70
50	30	70
50	35	70
50	40	70
50	50	70
50	60	80
60	25	70
60	30	70
60	35	70
60	40	70
60	50	80
60	60	80
70	40	70
70	50	80
70	60	80
70	70	80
70	80	100
80	40	70
80	50	80
80	60	80
80	70	80
80	80	100

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



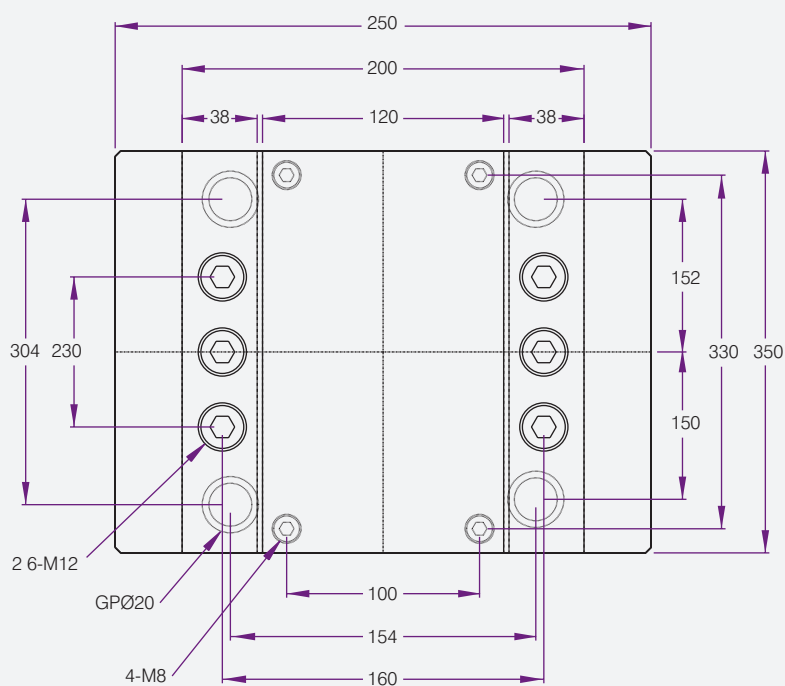
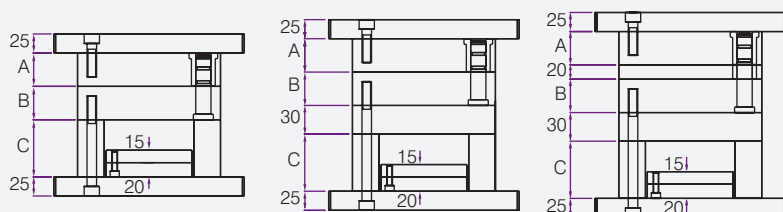
A Fixed Plate	B Moving Plate	C Spacer Block
25	25	70
25	30	50
25	35	70
25	40	60
25	50	70
25	60	70
30	25	50
30	30	70
30	35	60
30	40	60
30	50	70
30	60	70
35	25	70
35	30	50
35	35	70
35	40	60
35	50	70
35	60	80
40	25	70
40	30	70
40	35	70
40	40	70
40	50	70
40	60	70
50	30	70
50	35	60
50	40	60
50	50	70
50	60	80
60	25	50
60	30	50
60	35	70
60	40	60
60	50	70
60	60	80
70	40	70
70	50	70
70	60	80
70	70	80
70	80	90
70	100	90
80	40	70
80	50	70
80	60	70
80	70	90
80	80	100

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



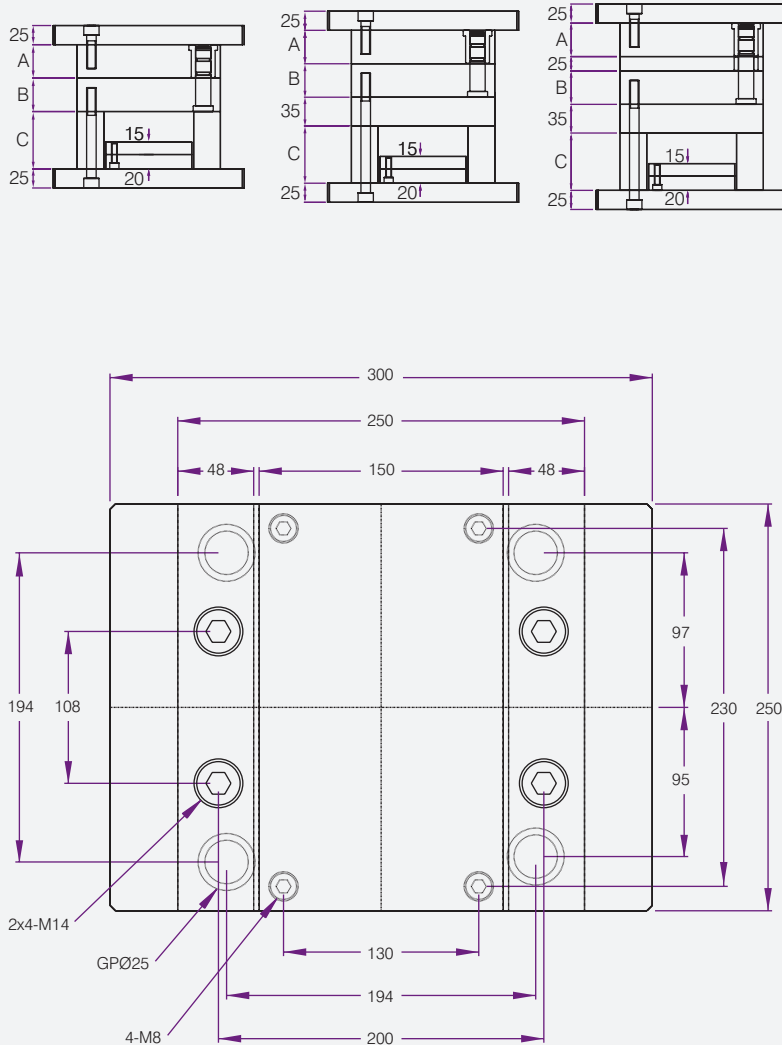
A Fixed Plate	B Moving Plate	C Spacer Block
25	35	70
25	40	70
25	50	80
35	25	70
35	35	70
35	40	70
35	50	80
35	60	80
35	70	80
35	80	100
40	40	70
40	50	80
40	60	80
40	70	80
40	80	100
50	35	70
50	40	70
50	50	80
50	60	80
50	80	100
60	35	70
60	50	80
60	60	80
60	70	80
60	80	100
70	40	70
70	50	80
70	60	80
70	70	80
70	80	100
80	40	70
80	50	80
80	60	80
80	70	80
80	80	100

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



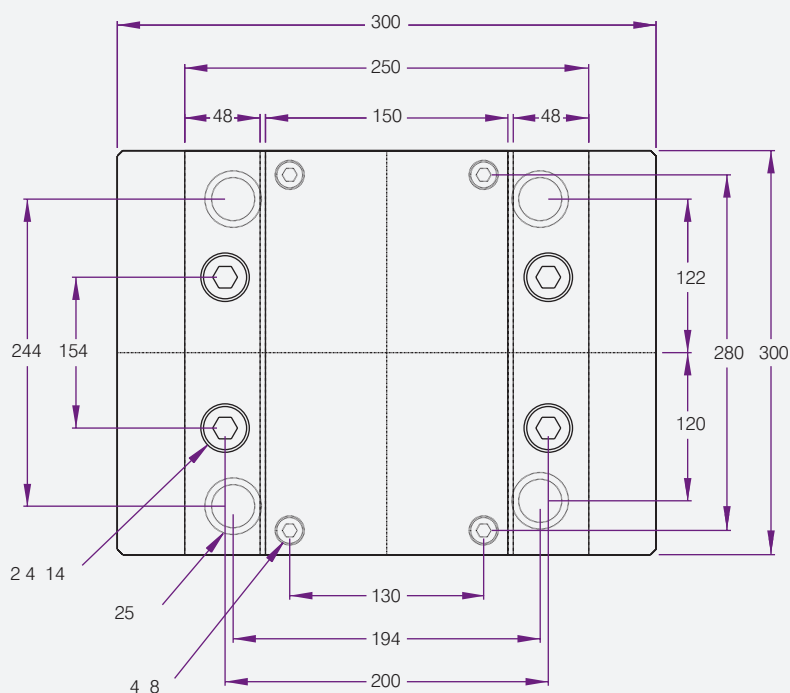
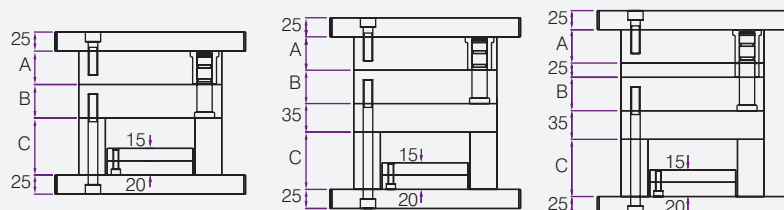
A Fixed Plate	B Moving Plate	C Spacer Block
25	35	70
25	40	70
25	50	80
25	60	80
25	70	80
35	35	70
35	40	70
35	50	80
35	60	80
35	70	80
35	80	100
40	25	70
40	40	70
40	50	70
40	60	80
40	70	80
40	80	100
50	35	70
50	40	70
50	50	80
50	70	80
50	80	100
60	40	70
60	50	80
60	70	80
60	80	100
70	35	70
70	40	70
70	50	80
70	60	80
70	70	80
70	80	100
80	40	70
80	50	80
80	60	80
80	70	80
80	80	100

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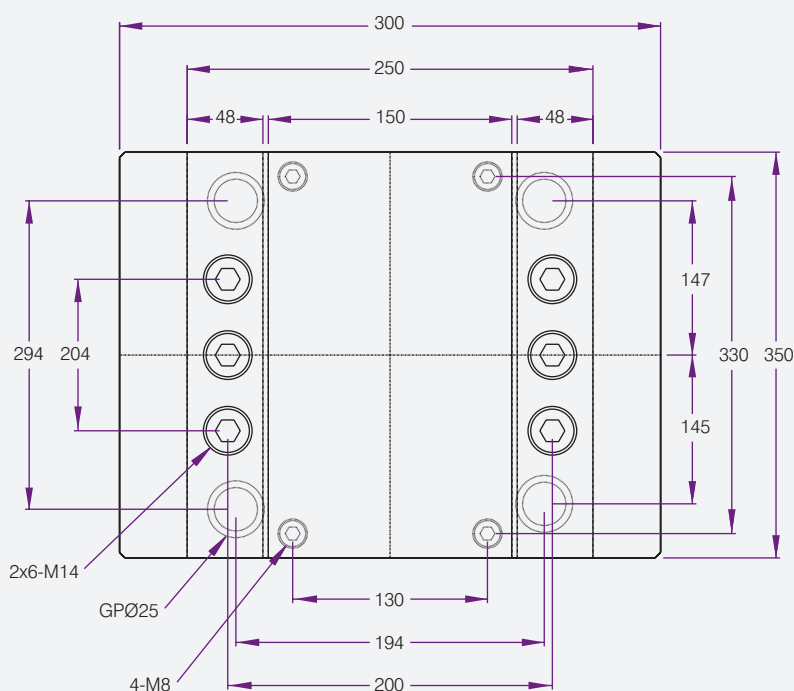
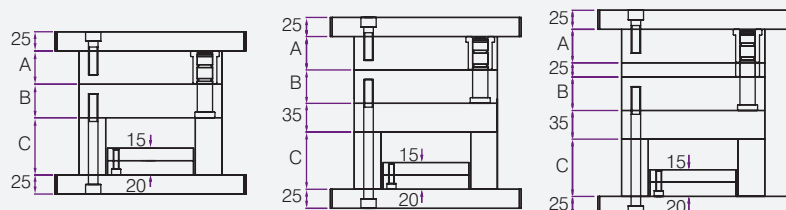
A Fixed Plate	B Moving Plate	C Spacer Block
25	35	80
25	40	80
25	50	80
25	60	80
30	30	80
35	35	80
35	40	80
35	50	80
35	60	80
35	70	90
35	80	110
35	100	110
40	40	80
40	50	80
40	60	80
40	70	90
40	80	110
50	25	80
50	35	80
50	40	80
50	50	80
50	60	80
50	70	90
50	80	110
50	100	110
60	35	60
60	50	80
60	60	80
60	70	90
60	80	110
60	100	110
70	40	80
70	50	80
70	60	80
70	70	90
70	80	110
70	100	110
80	40	80
80	50	80
80	60	80
80	70	90
80	80	90

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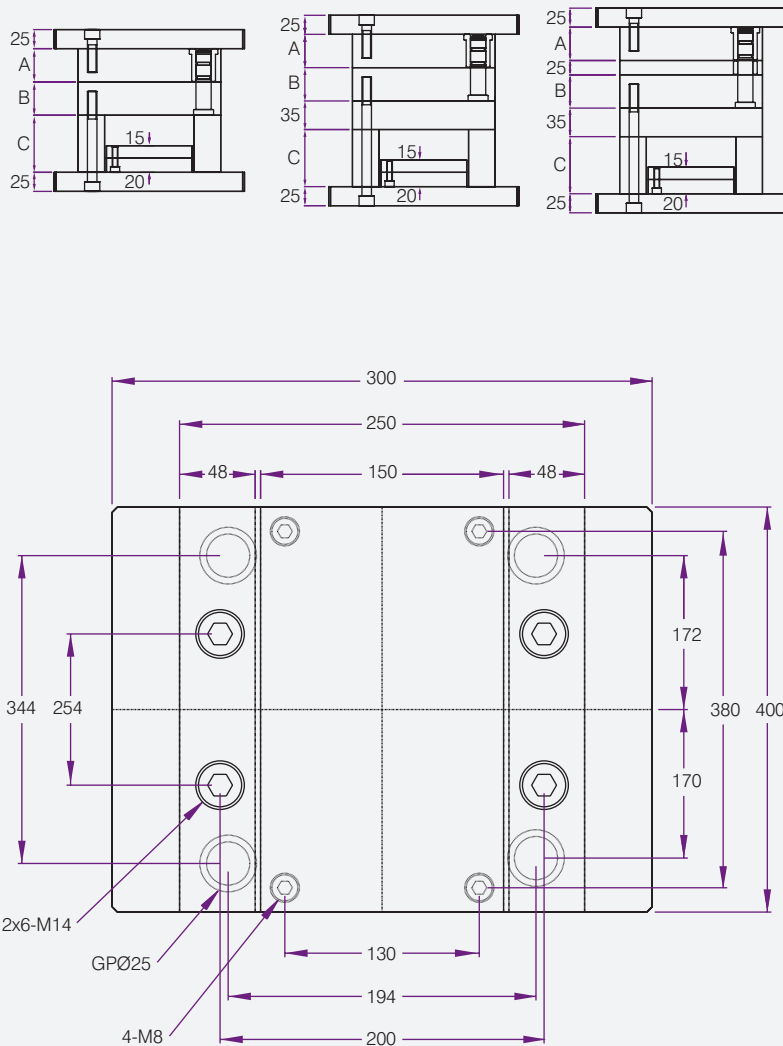
A Fixed Plate	B Moving Plate	C Spacer Block
30	50	80
35	35	80
35	50	80
35	60	80
35	70	90
35	80	110
35	100	110
40	35	80
40	40	80
40	50	80
40	60	80
40	70	90
40	80	110
40	100	110
50	35	80
50	40	80
50	50	80
50	60	80
50	70	90
50	80	110
60	35	80
60	50	80
60	60	80
60	70	90
70	60	80
70	70	90
70	80	110
70	100	110
80	40	80
80	60	80
80	80	110
80	100	110
100	35	80
100	40	80
100	50	80
100	60	80
100	70	90
100	80	110
100	100	110

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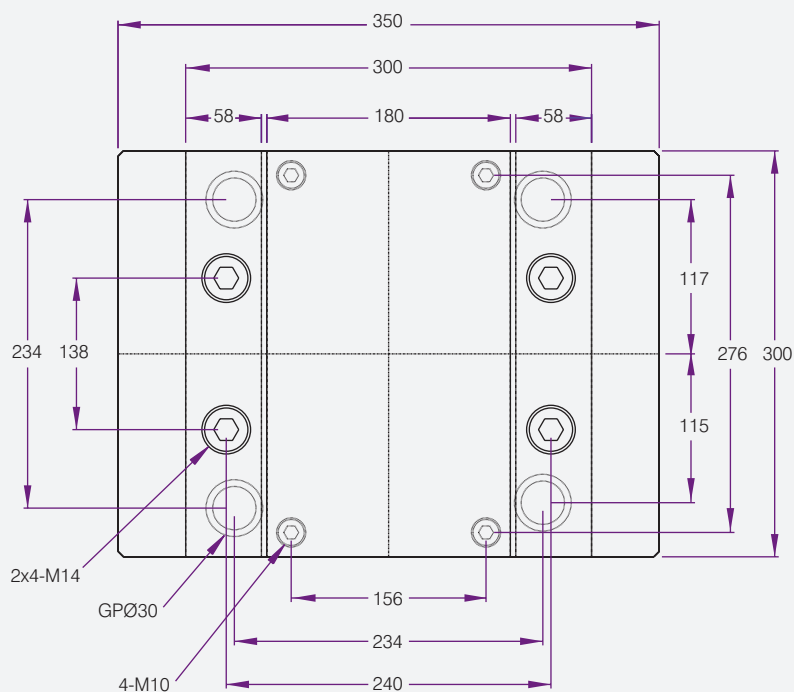
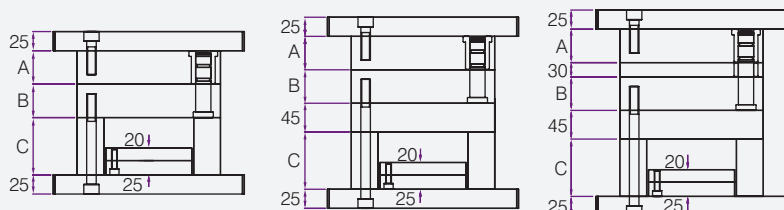
A Fixed Plate	B Moving Plate	C Spacer Block
35	35	80
35	40	80
35	50	80
35	60	80
35	70	90
35	80	90
35	100	110
40	35	80
40	40	80
40	50	80
40	60	80
40	70	90
40	80	90
40	100	110
50	35	80
50	40	80
50	50	80
50	60	80
50	80	110
50	100	110
60	35	80
60	40	80
60	50	80
60	60	80
60	70	90
60	80	80
60	100	110
70	35	80
70	40	80
70	50	80
70	60	80
70	80	80
70	100	110
80	35	80
80	40	80
80	50	80
80	60	80
80	70	90
80	80	110
80	100	110
100	35	80
100	40	80
100	50	80
100	60	80
100	70	90
100	80	80
100	100	110

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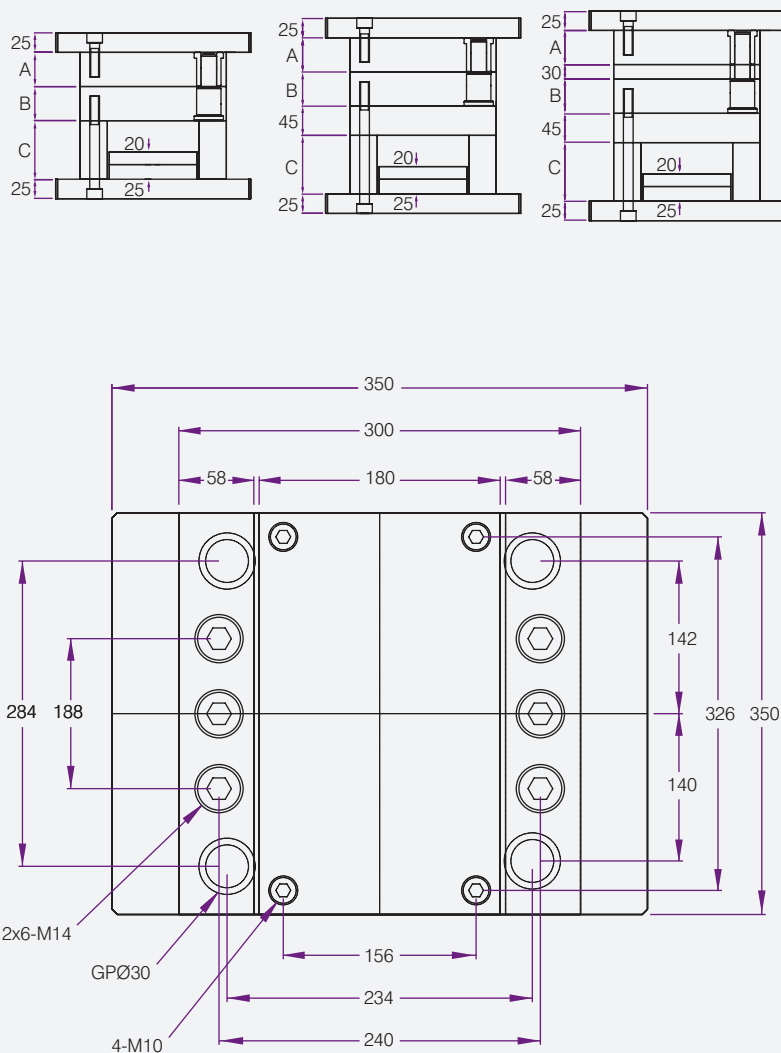
A Fixed Plate	B Moving Plate	C Spacer Block
35	35	80
35	40	80
35	50	80
35	60	80
35	70	90
35	80	110
35	100	110
40	35	80
40	40	80
40	50	80
40	60	80
40	70	90
40	80	110
40	100	110
50	35	80
50	40	80
50	50	80
50	60	80
50	70	90
50	80	110
50	100	110
60	35	80
60	40	80
60	50	80
60	60	80
60	70	90
60	80	110
60	100	110
70	35	80
70	40	80
70	50	80
70	60	80
70	70	90
70	80	110
70	100	110
80	35	80
80	40	80
80	50	80
80	60	80
80	70	90
80	80	110
80	100	110
80	120	110
100	40	80
100	50	80
100	60	80
100	70	90
100	80	110
100	100	110

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



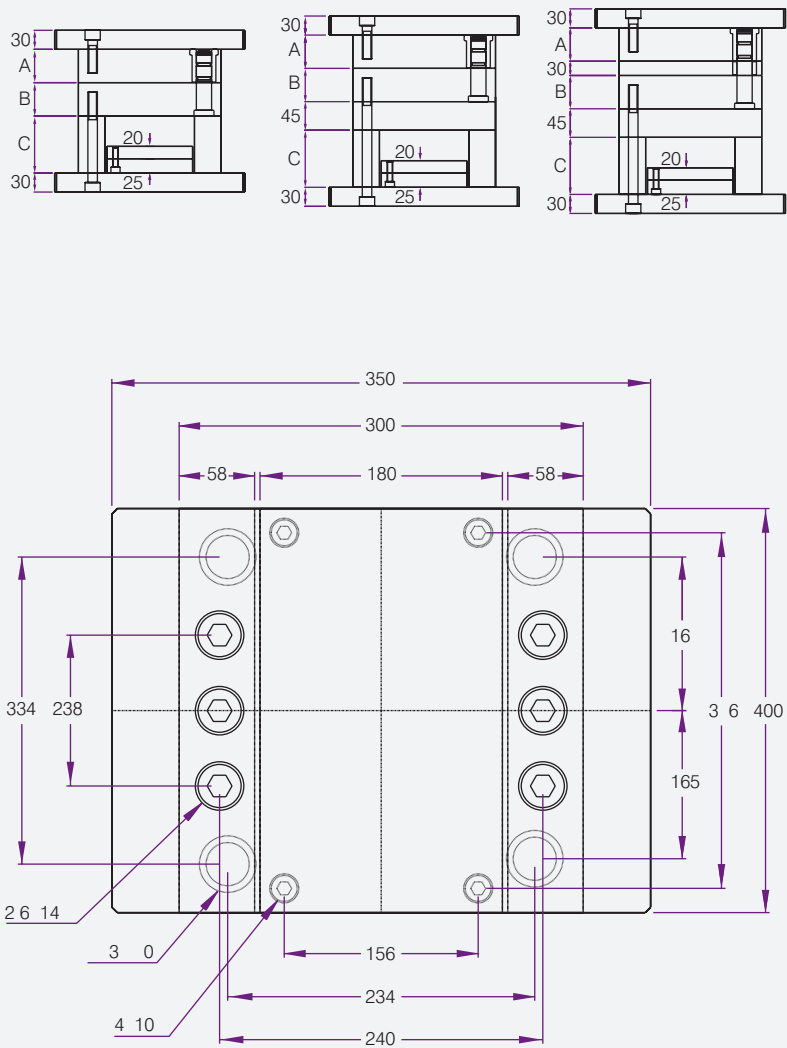
A Fixed Plate	B Moving Plate	C Spacer Block
35	35	90
35	40	90
35	50	90
35	60	90
35	70	90
35	80	100
35	100	120
40	35	90
40	40	90
40	50	90
40	60	90
40	70	90
40	80	100
40	100	120
50	35	90
50	40	90
50	50	90
50	60	90
50	70	90
50	80	100
50	100	120
60	35	90
60	40	90
60	50	90
60	60	90
60	70	90
60	80	100
60	100	120
70	35	90
70	40	90
70	50	90
70	60	90
70	70	90
70	80	100
70	100	120
80	35	90
80	40	90
80	50	90
80	60	90
80	70	90
80	80	100
80	100	120
100	35	90
100	40	90
100	50	90
100	60	90
100	70	90
100	80	100
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



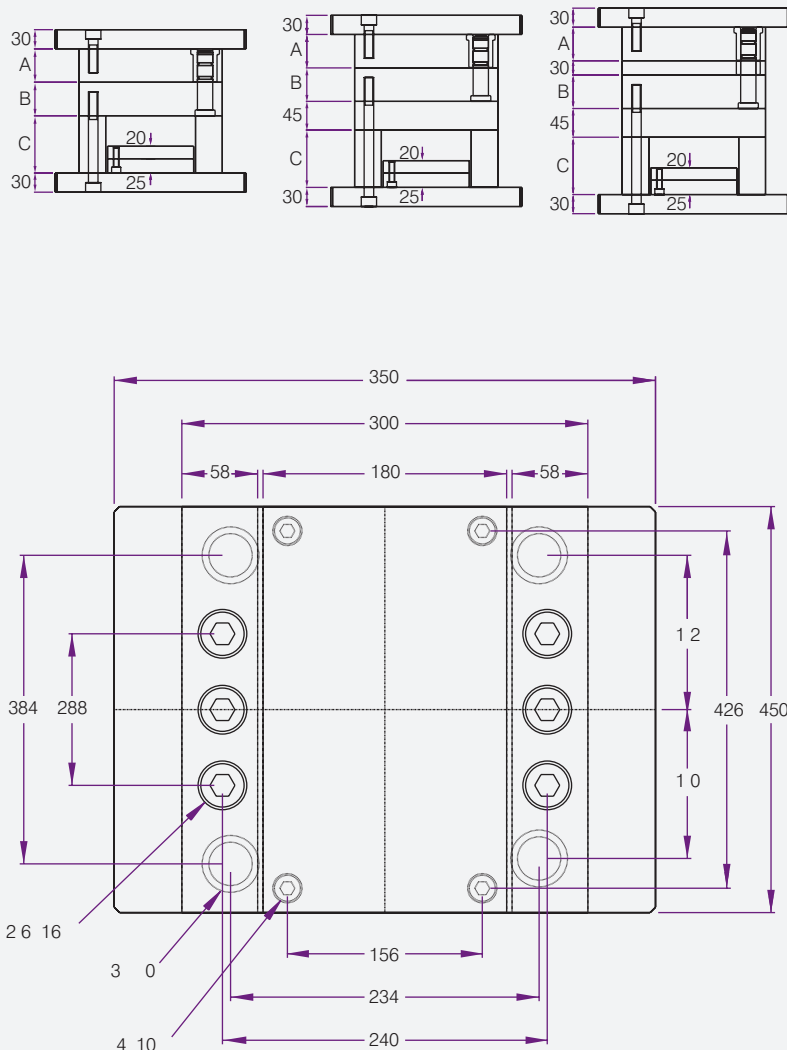
A Fixed Plate	B Moving Plate	C Spacer Block
35	35	90
35	40	90
35	50	90
35	60	90
35	70	90
35	80	100
35	100	120
40	35	90
40	40	90
40	50	90
40	60	90
40	70	90
40	80	100
40	100	120
50	35	90
50	40	90
50	50	90
50	60	90
50	70	90
50	80	100
50	100	120
60	35	90
60	40	90
60	50	90
60	60	90
60	70	90
60	80	100
60	100	120
70	35	90
70	40	90
70	50	90
70	60	90
70	70	90
70	80	100
70	100	120
80	35	90
80	40	90
80	50	90
80	60	90
80	70	90
80	80	100
80	100	120
100	35	90
100	40	90
100	50	90
100	60	90
100	70	90
100	80	100
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



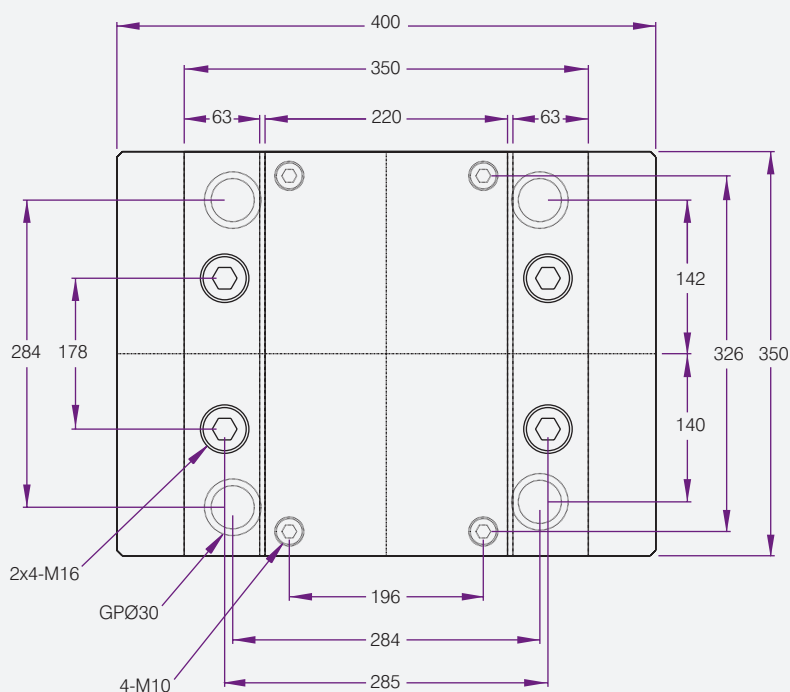
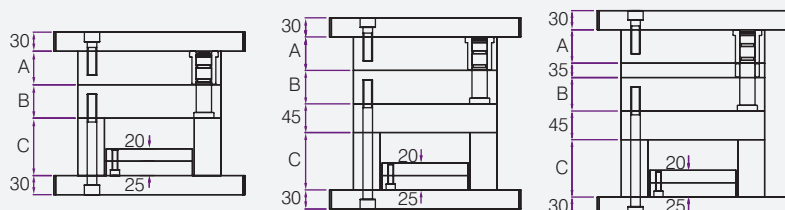
A Fixed Plate	B Moving Plate	C Spacer Block
35	35	90
35	40	90
35	50	90
35	60	90
35	70	90
35	80	100
35	100	120
40	35	90
40	40	90
40	50	90
40	60	90
40	70	90
40	80	100
40	100	120
50	35	90
50	40	90
50	50	90
50	60	90
50	70	90
50	80	100
50	100	120
60	35	90
60	40	90
60	50	90
60	60	90
60	70	90
60	80	100
60	100	120
70	35	90
70	40	90
70	50	90
70	60	90
70	70	90
70	80	100
70	100	120
80	35	90
80	40	90
80	50	90
80	60	90
80	70	90
80	80	100
80	100	120
100	35	90
100	40	90
100	50	90
100	60	90
100	70	90
100	80	100
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



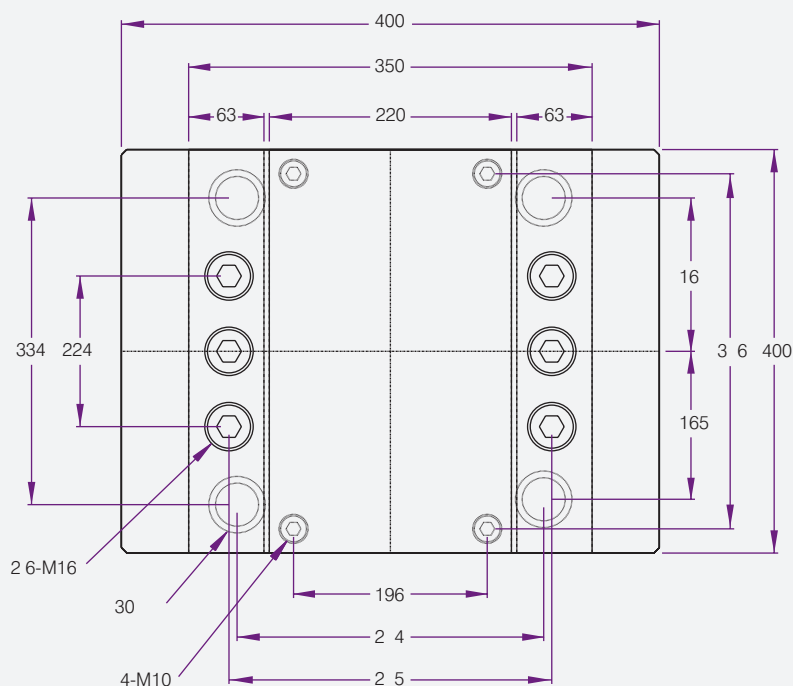
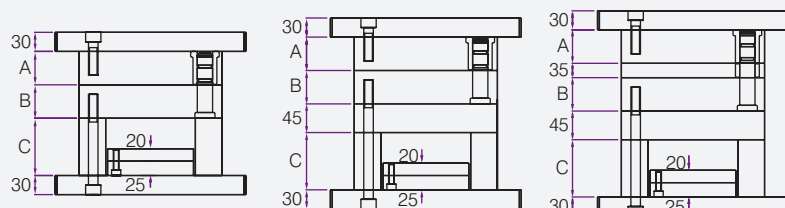
A Fixed Plate	B Moving Plate	C Spacer Block
35	35	90
35	40	90
35	50	90
35	60	90
35	70	90
35	80	100
35	100	120
40	35	90
40	40	90
40	50	90
40	60	90
40	70	90
40	80	100
40	100	120
50	35	90
50	40	90
50	50	90
50	60	90
50	70	90
50	80	100
50	100	120
60	35	90
60	40	90
60	50	90
60	60	90
60	70	90
60	80	100
60	100	120
70	35	90
70	40	90
70	50	90
70	60	90
70	70	90
70	80	100
70	100	120
80	35	90
80	40	90
80	50	90
80	60	90
80	70	90
80	80	100
80	100	120
100	35	90
100	40	90
100	50	90
100	60	90
100	70	90
100	80	100
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



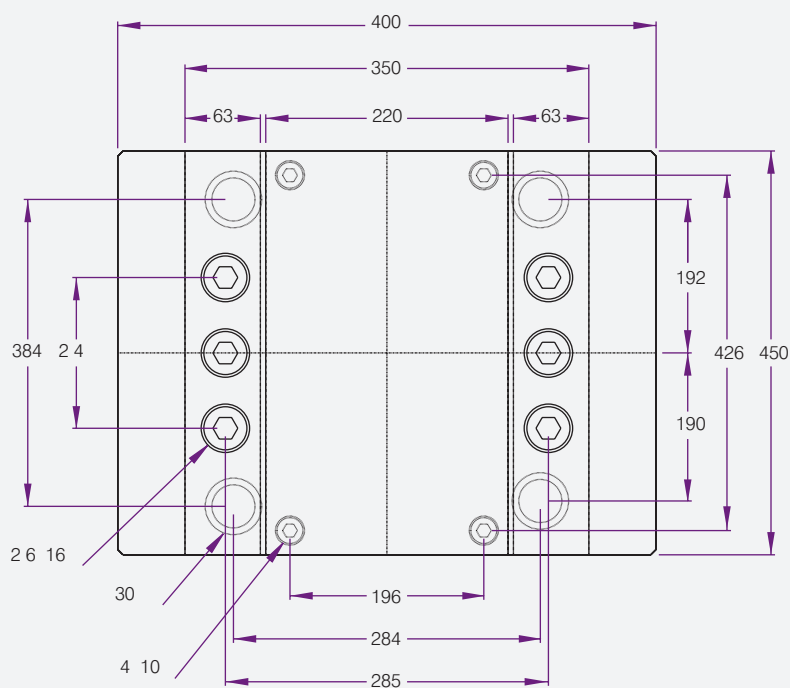
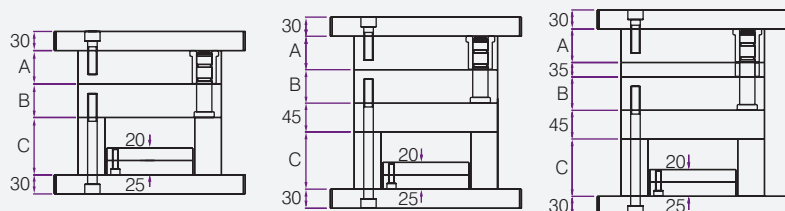
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	100
40	50	100
40	60	100
40	70	100
40	80	100
40	100	130
50	40	100
50	50	100
50	60	100
50	70	100
50	80	100
50	100	130
60	40	100
60	50	100
60	60	100
60	70	100
60	80	100
60	100	130
70	40	100
70	50	100
70	60	100
70	70	100
70	80	100
70	100	130
80	40	100
80	50	100
80	60	100
80	70	100
80	80	100
80	100	130
100	40	100
100	50	100
100	60	100
100	70	100
100	80	100
100	100	130

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



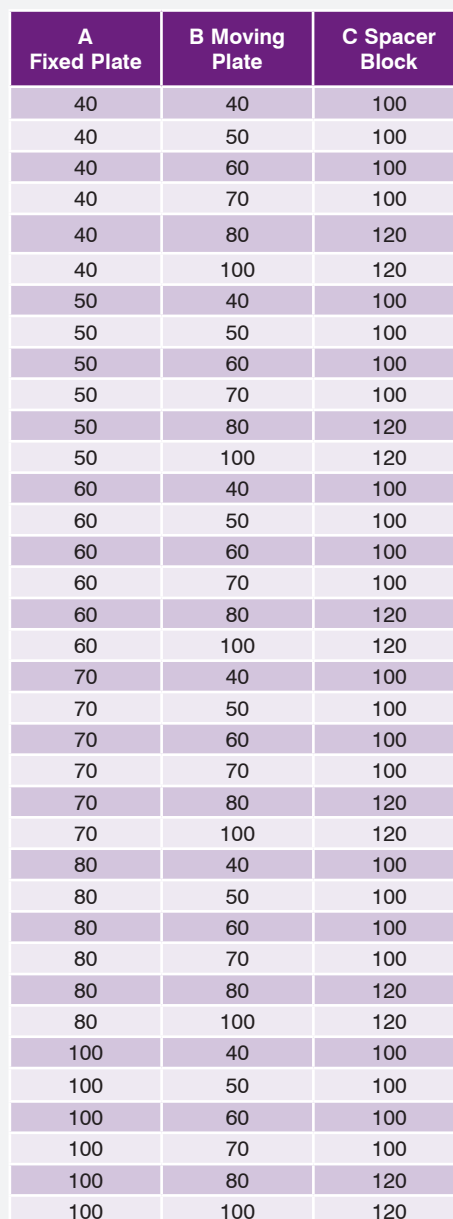
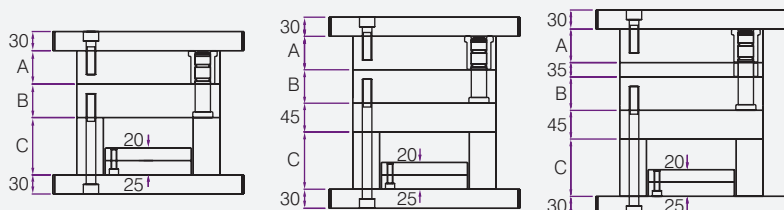
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	100
40	50	100
40	60	100
40	70	100
40	80	100
40	100	130
50	40	100
50	50	100
50	60	100
50	70	100
50	80	100
50	100	130
60	40	100
60	50	100
60	60	100
60	70	100
60	80	100
60	100	130
70	40	100
70	50	100
70	60	100
70	70	100
70	80	100
70	100	130
80	40	100
80	50	100
80	60	100
80	70	100
80	80	100
80	100	130
100	40	100
100	50	100
100	60	100
100	70	100
100	80	100
100	100	130

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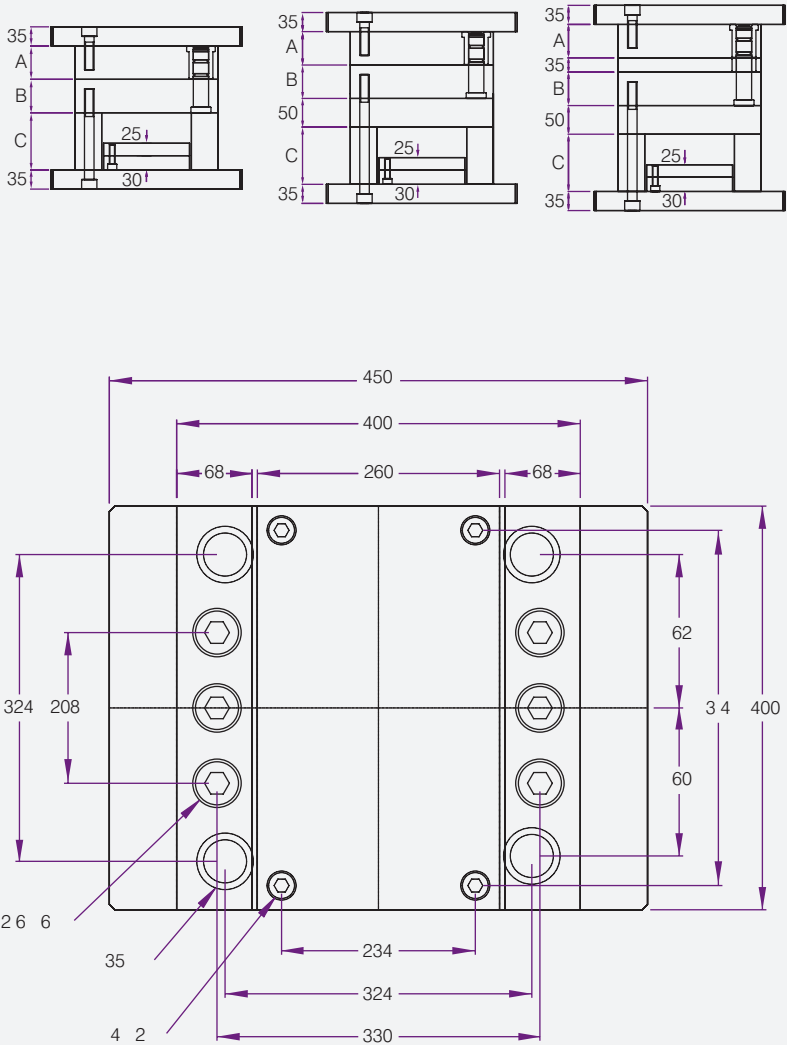


A Fixed Plate	B Moving Plate	C Spacer Block
40	40	100
40	50	100
40	60	100
40	70	100
40	80	100
40	100	130
50	40	100
50	50	100
50	60	100
50	70	100
50	80	100
50	100	130
60	40	100
60	50	100
60	60	100
60	70	100
60	80	100
60	100	130
70	40	100
70	50	100
70	60	100
70	70	100
70	80	100
70	100	130
80	40	100
80	50	100
80	60	100
80	70	100
80	80	100
80	100	130
100	40	100
100	50	100
100	60	100
100	70	100
100	80	100
100	100	130

20

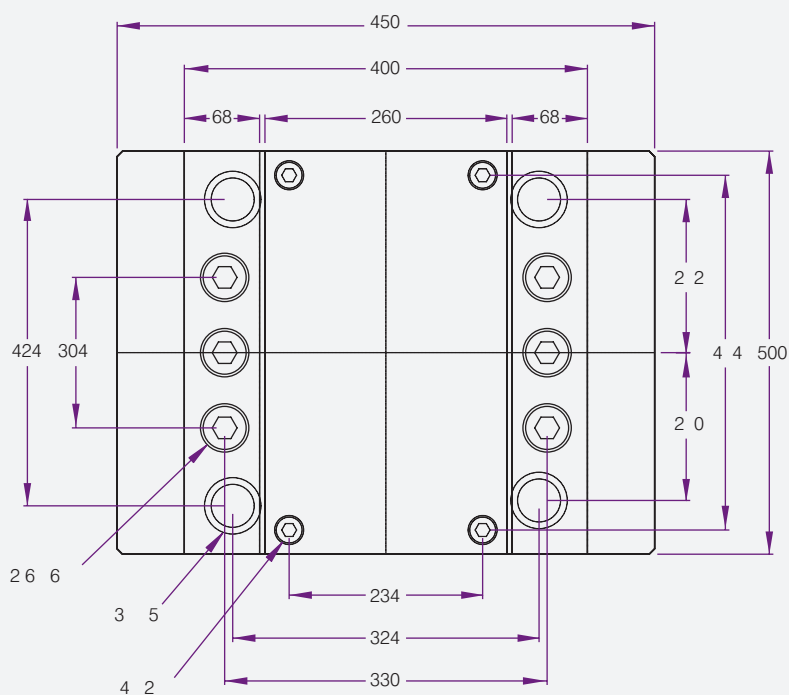
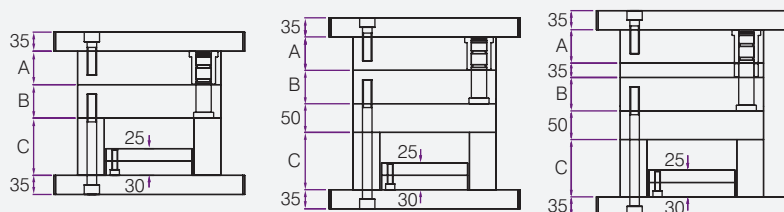


Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



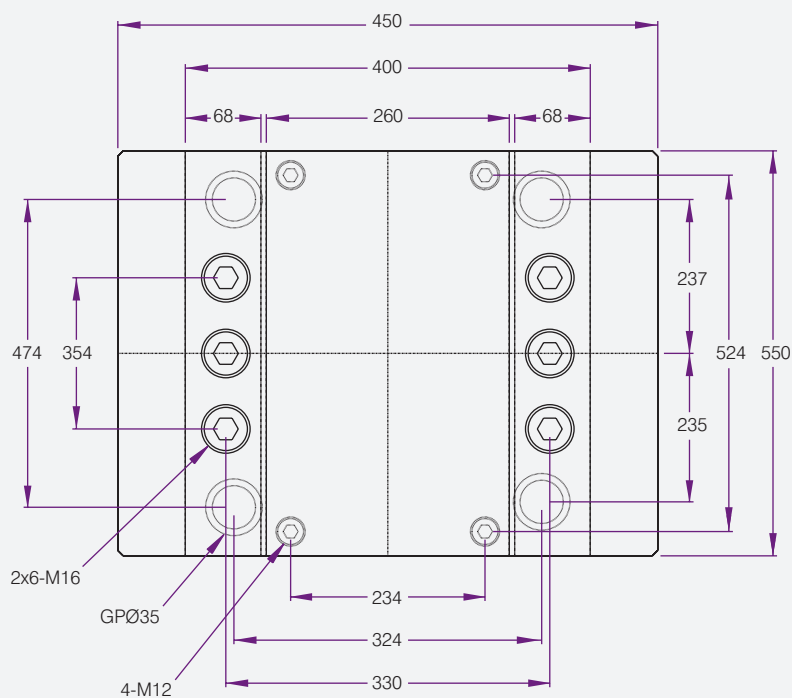
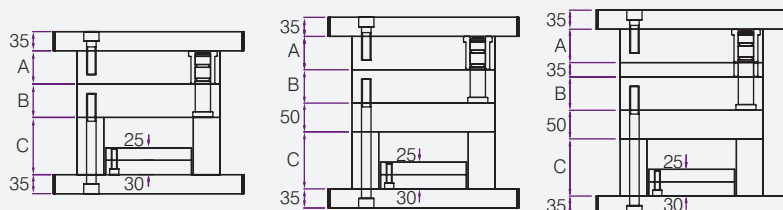
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	120
40	50	120
40	60	120
40	70	120
40	80	120
40	100	120
50	40	120
50	50	120
50	60	120
50	70	120
50	80	120
50	100	120
60	40	120
60	50	120
60	60	120
60	70	120
60	80	120
60	100	120
70	40	120
70	50	120
70	60	120
70	70	120
70	80	120
70	100	120
80	40	120
80	50	120
80	60	120
80	70	120
80	80	120
80	100	120
90	90	120
100	40	120
100	50	120
100	60	120
100	70	120
100	80	120
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



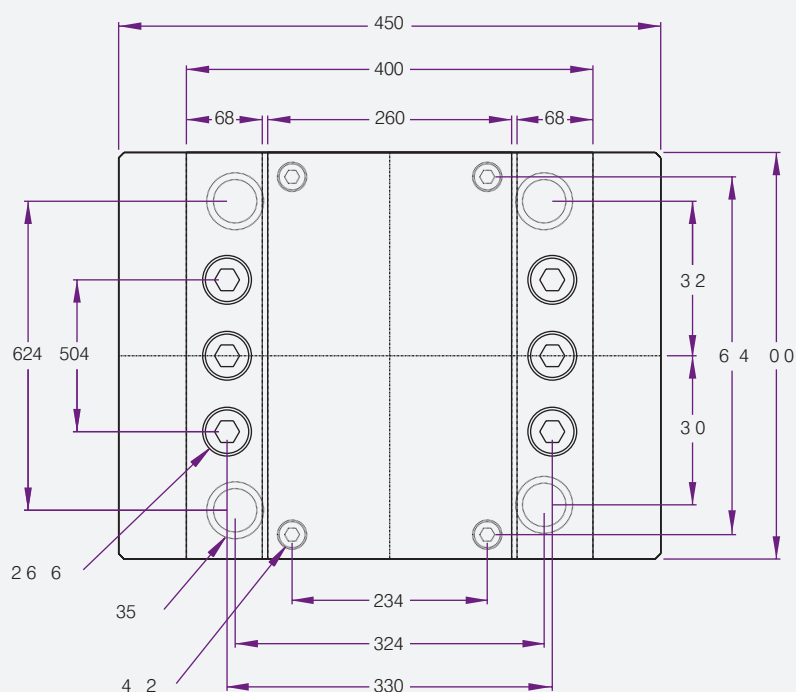
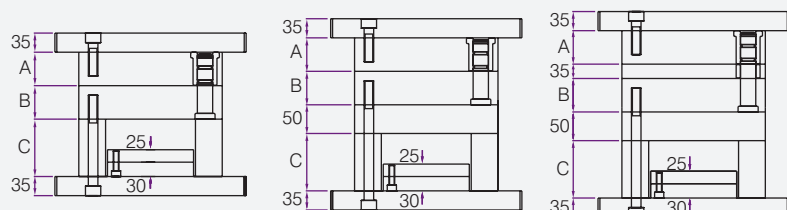
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	120
40	50	120
40	60	120
40	70	120
40	80	120
40	100	120
50	40	120
50	50	120
50	60	120
50	70	120
50	80	120
50	100	120
60	40	120
60	50	120
60	60	120
60	70	120
60	80	120
60	100	120
70	40	120
70	50	120
70	60	120
70	70	120
70	80	120
70	100	120
80	40	120
80	50	120
80	60	120
80	70	120
80	80	120
80	90	120
100	40	120
100	50	120
100	60	120
100	70	120
100	80	120
100	100	120
100	120	140

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



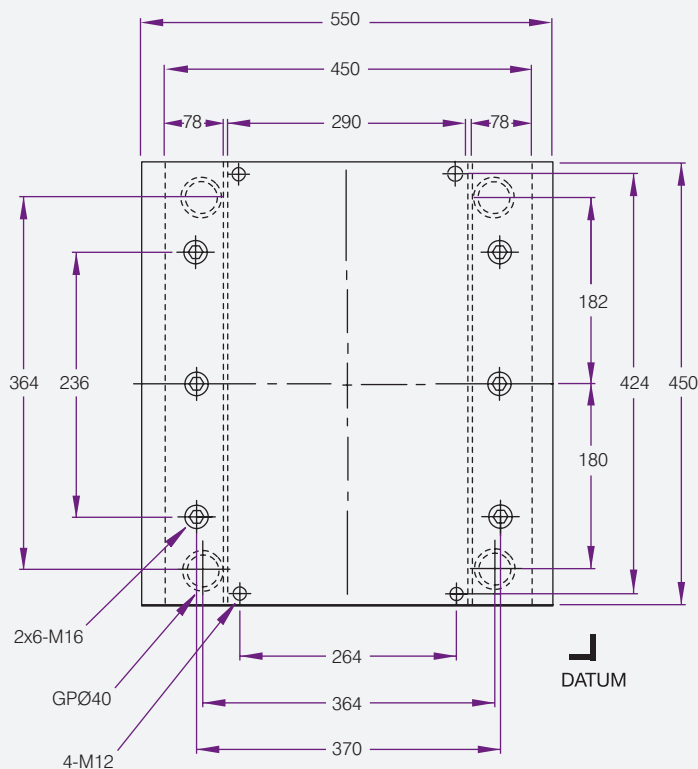
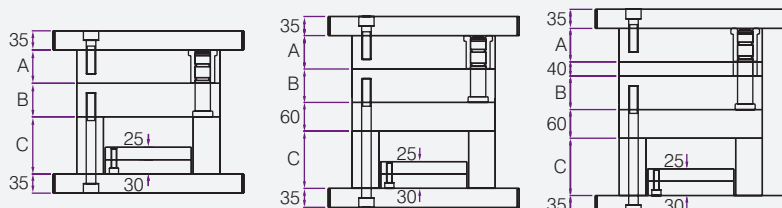
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	120
40	50	120
40	60	120
40	70	120
40	80	120
40	100	120
50	40	120
50	50	120
50	60	120
50	70	120
50	80	120
50	100	120
60	40	120
60	50	120
60	60	120
60	70	120
60	80	120
60	100	120
70	40	120
70	50	120
70	60	120
70	70	120
70	80	120
70	100	120
80	40	120
80	50	120
80	60	120
80	70	120
80	80	120
80	100	120
100	40	120
100	50	120
100	60	120
100	70	120
100	80	120
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



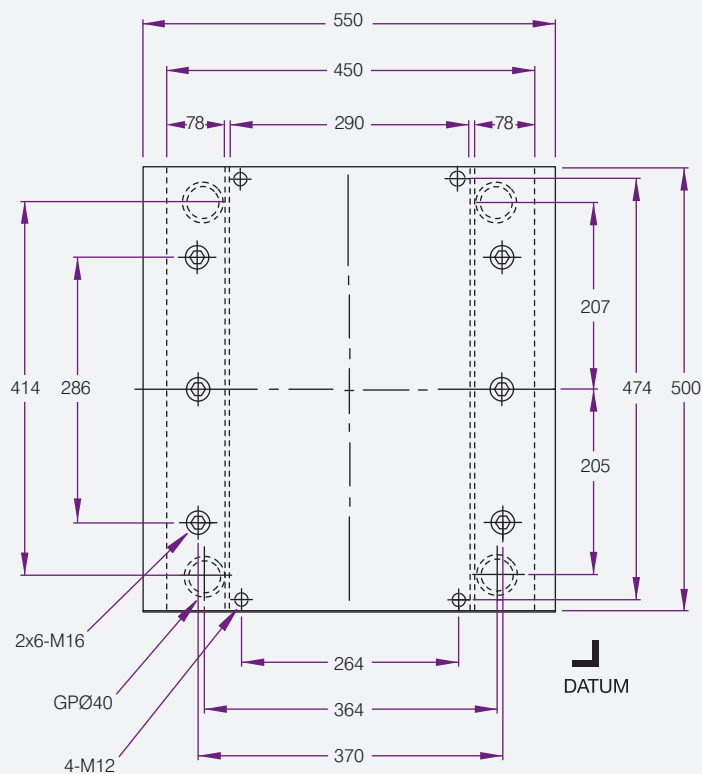
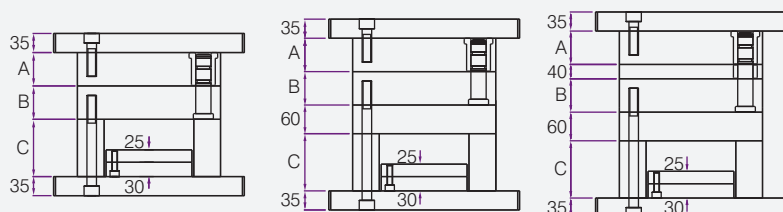
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	120
40	50	120
40	60	120
40	70	120
40	80	120
40	100	120
50	40	120
50	50	120
50	60	120
50	70	120
50	80	120
50	100	120
60	40	120
60	50	120
60	60	120
60	70	120
60	80	120
60	100	120
70	40	120
70	50	120
70	60	120
70	70	120
70	80	120
70	100	120
80	40	120
80	50	120
80	60	120
80	70	120
80	80	120
80	100	120
100	40	120
100	50	120
100	60	120
100	70	120
100	80	120
100	100	120

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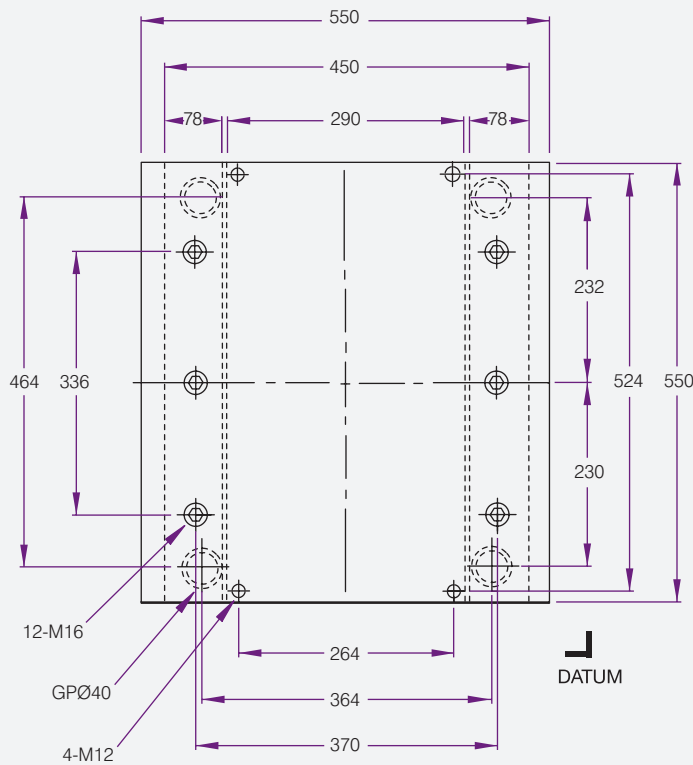
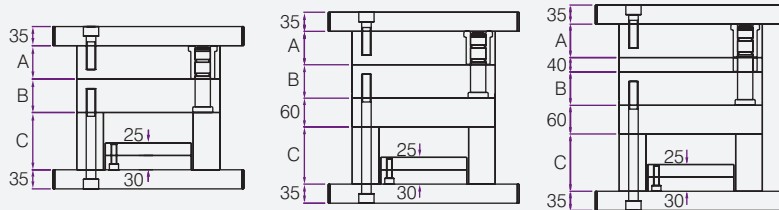
A Fixed Plate	B Moving Plate	C Spacer Block
40	40	120
40	50	120
40	60	120
40	70	120
40	80	120
40	100	120
50	40	120
50	50	120
50	60	120
50	70	120
50	80	120
50	100	120
60	40	120
60	50	120
60	60	120
60	70	120
60	80	120
60	100	120
70	40	120
70	50	120
70	60	120
70	70	120
70	80	120
70	100	120
80	40	120
80	50	120
80	60	120
80	70	120
80	80	120
80	100	120
100	40	120
100	50	120
100	60	120
100	70	120
100	80	120
100	100	120

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



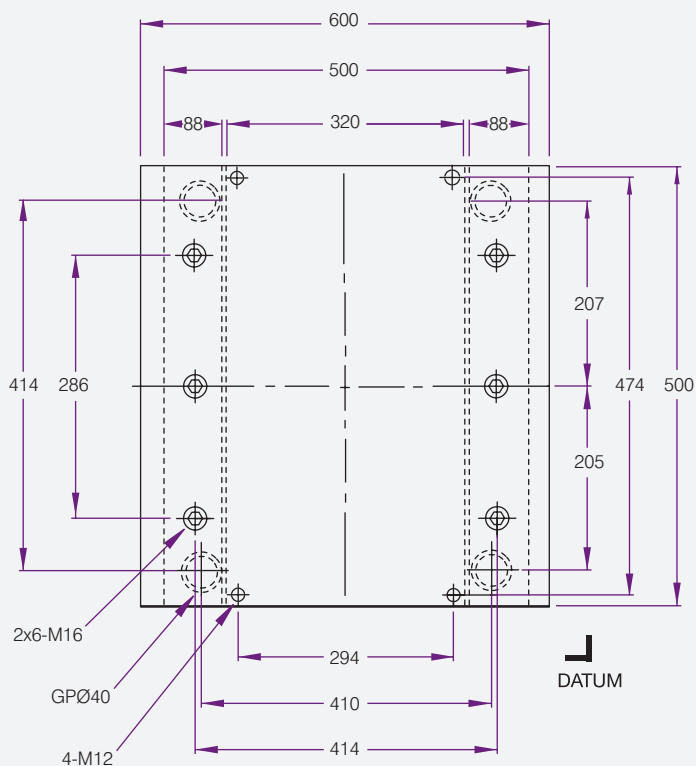
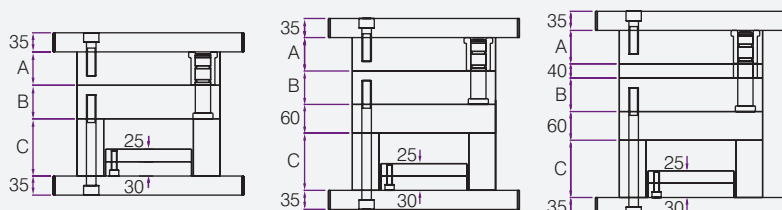
A Fixed Plate	B Moving Plate	C Spacer Block
50	50	120
50	60	120
50	70	120
50	80	120
50	100	140
60	50	120
60	60	120
60	70	120
60	80	120
60	100	140
70	50	120
70	60	120
70	70	120
70	80	120
70	100	140
80	50	120
80	60	120
80	70	120
80	80	120
80	100	140
100	50	120
100	60	120
100	70	120
100	80	120
100	100	140

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



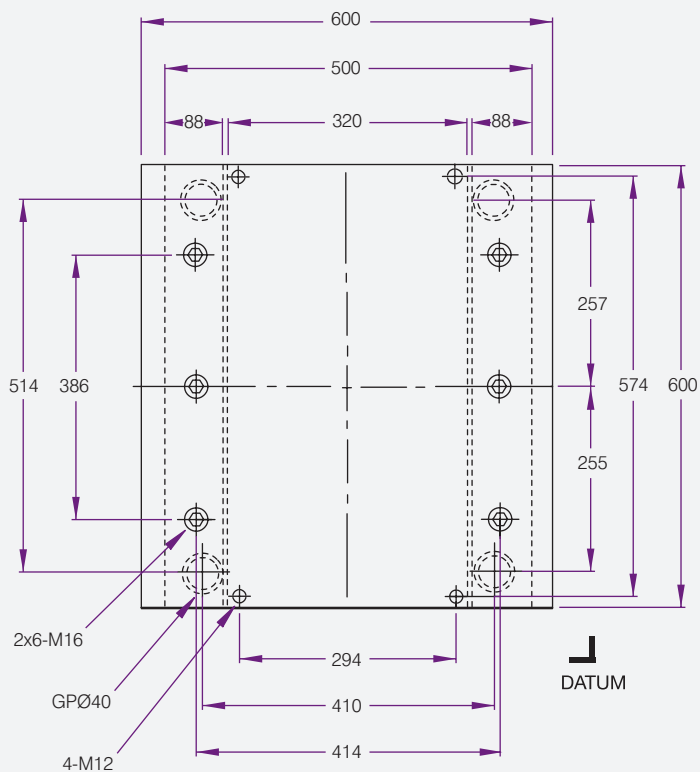
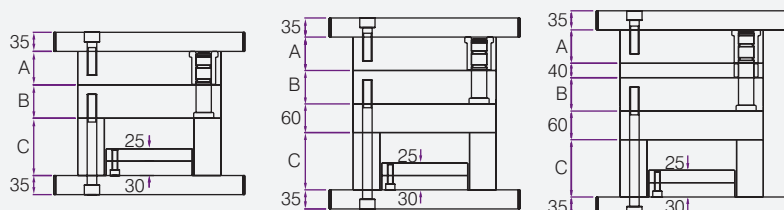
A Fixed Plate	B Moving Plate	C Spacer Block
50	50	120
50	60	120
50	70	120
50	80	120
50	100	140
60	50	120
60	60	120
60	70	120
60	80	120
60	100	140
70	50	120
70	60	120
70	70	120
70	80	120
70	100	140
80	50	120
80	60	120
80	70	120
80	80	120
80	100	140
100	50	120
100	60	120
100	70	120
100	80	120
100	100	140

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



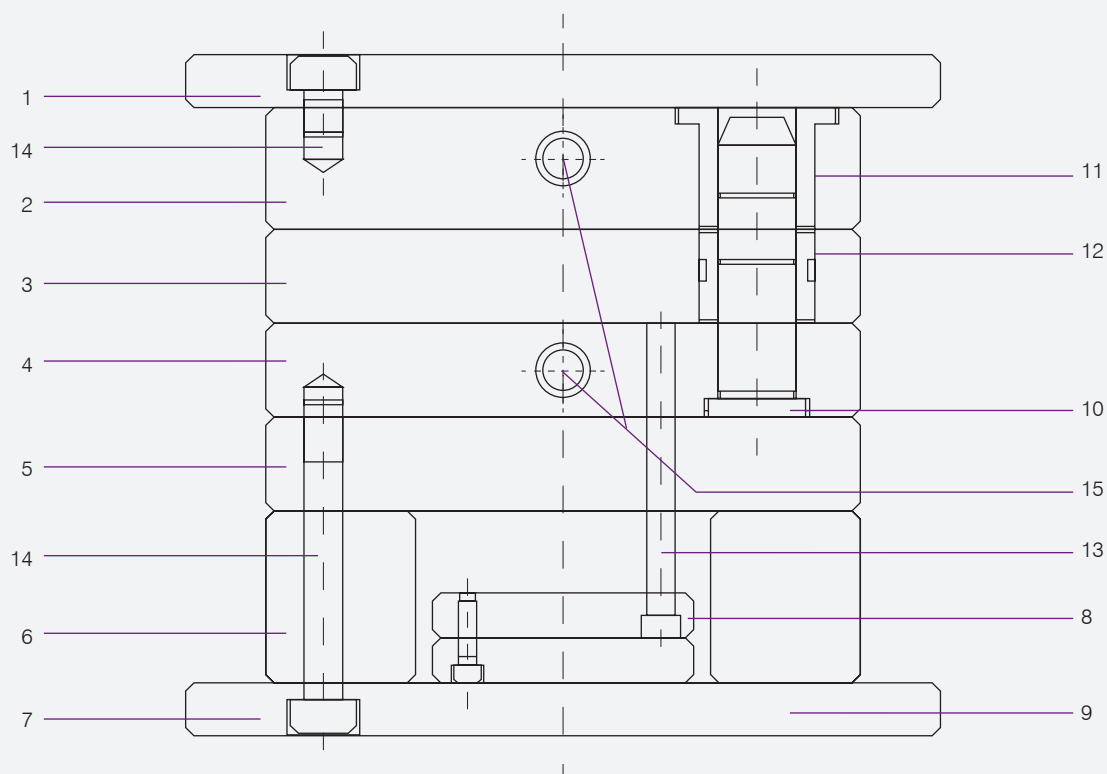
A Fixed Plate	B Moving Plate	C Spacer Block
50	40	120
50	50	120
50	60	120
50	70	120
50	80	120
50	100	140
60	50	120
60	60	120
60	70	120
60	80	120
60	100	140
70	50	120
70	60	120
70	70	120
70	80	120
70	100	140
80	50	120
80	60	120
80	70	120
80	80	120
80	100	140
100	50	120
100	60	120
100	70	120
100	80	120
100	100	140

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



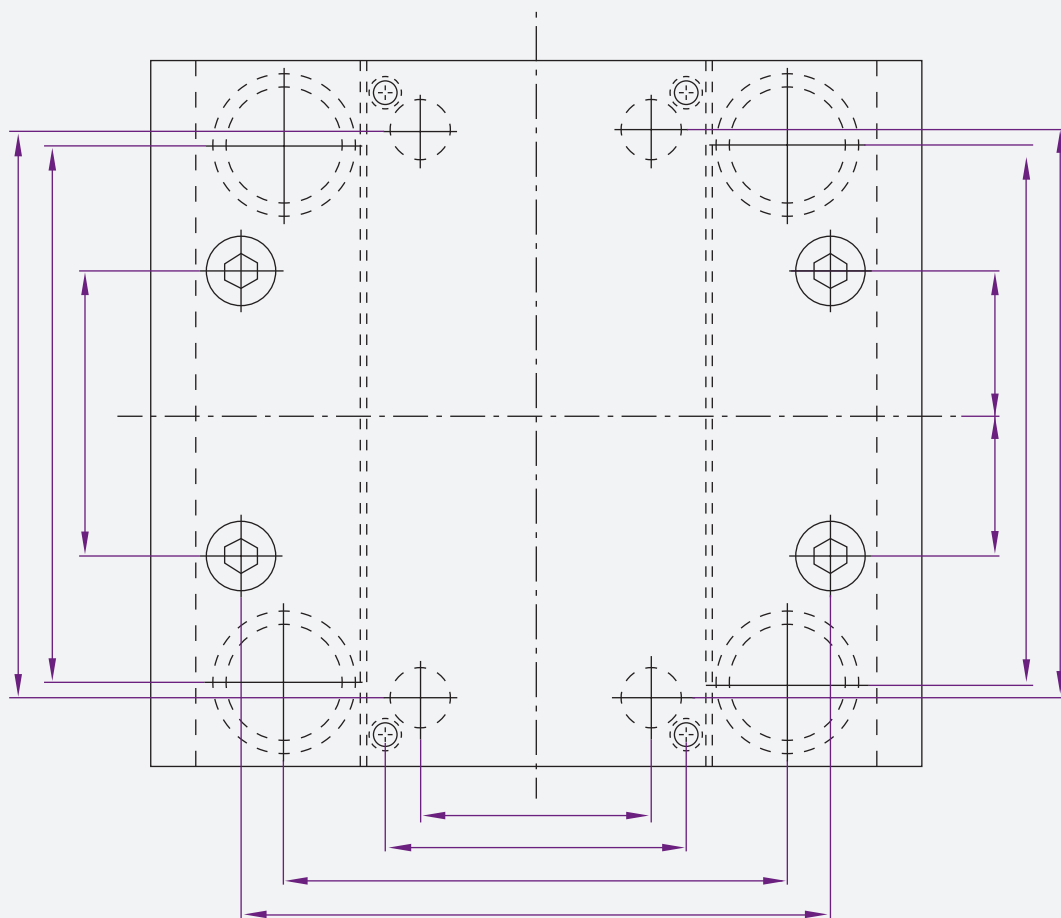
A Fixed Plate	B Moving Plate	C Spacer Block
50	50	120
50	60	120
50	70	120
50	80	120
50	100	140
60	50	120
60	60	120
60	70	120
60	80	120
60	100	140
70	50	120
70	60	120
70	70	120
70	80	120
70	100	140
80	50	120
80	60	120
80	70	120
80	80	120
80	100	140
100	50	120
100	60	120
100	70	120
100	80	120
100	100	140

30



Item No.	Description	Material JIS	Size Width x Length x Height or Diameter
1	Top Clamping Plate		
2	Cavity Plate (A)		
3	Stripper Plate		
4	Core Plate (B)		
5	Support Plate (SO)		
6	Rails		
7	Bottom Clamping Plate		
8	Ejector Retainer Plate (A)		
9	Ejector Plate (B)		
10	Guide Pin		
11	Guide Bush (A)		
12	Guide Bush (B)		
13	Return Pin		
14	Socket Head Cap Screw		
15	Lifting Hole		

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



Pockets, waterways and Special Machining available.

Due to safety reasons, some assembled mould bases now come with lifting holes. Please enquire with your sales person before confirming order.



Material: H13

Hardness:

Core = 40-45RC

Surface = 70-72RC

P	S	Product Code			
		L100	L125	L150	L250
1.0	10		NEJ01125-10		
1.0	12	NEJ01100-12		NEJ01150-12	
1.0	25	NEJ01100-25		NEJ01150-25	
1.0	50	NEJ01100-50		NEJ01150-50	NEJ01250-50
1.2	10		NEJ012125-10		
1.2	25	NEJ012100-25		NEJ012150-25	
1.2	50			NEJ012150-50	NEJ012250-50
1.5	10		NEJ015125-10		
1.5	12	NEJ015100-12		NEJ015150-12	
1.5	25	NEJ015100-25		NEJ015150-25	
1.5	50			NEJ015150-50	NEJ015250-50
2.0	10		NEJ02125-10		
2.0	12	NEJ02100-12		NEJ02150-12	
2.0	25	NEJ02100-25		NEJ02150-25	
2.0	50			NEJ02150-50	NEJ02250-50
2.5	10		NEJ025125-10		
2.5	12	NEJ025100-12			
2.5	25	NEJ025100-25		NEJ025150-25	
2.5	50			NEJ025150-50	NEJ025250-50



Material: H13

Hardness:

Core = 40-45RC

Surface = 70-72RC

Specials to order.

Please fill in Special Order Form.



P	H	T	Product Code					
			L100	L150	L200	L250	L300	L350
1.0	6	4	NEJ01100	NEJ01150				
1.2	6	4		NEJ012150				
1.5	6	4	NEJ015100	NEJ015150		NEJ015250		
2.0	6	4	NEJ02100	NEJ02150		NEJ02250		
2.5	6	4	NEJ025100	NEJ025150	NEJ025200	NEJ025250		
3.0	6	4	NEJ03100	NEJ03150	NEJ03200	NEJ03250	NEJ03300	NEJ03350
3.5	7	4	NEJ035100	NEJ035150	NEJ035200	NEJ035250		
4.0	8	6	NEJ04100	NEJ04150	NEJ04200	NEJ04250	NEJ04300	NEJ04350
4.5	8	6	NEJ045100	NEJ045150		NEJ045250		
5.0	9	6	NEJ05100	NEJ05150	NEJ05200	NEJ05250	NEJ05300	NEJ05350
5.5	10	6		NEJ055150		NEJ055250		
6.0	10	6	NEJ06100	NEJ06150	NEJ06200	NEJ06250	NEJ06300	NEJ06350
6.5	10	6	NEJ065100	NEJ065150		NEJ065250	NEJ065300	
7.0	11	6	NEJ07100	NEJ07150	NEJ07200	NEJ07250	NEJ07300	NEJ07350
7.5	13	8			NEJ075200			
8.0	13	8	NEJ08100	NEJ08150	NEJ08200	NEJ08250	NEJ08300	NEJ08350
8.5	14	8		NEJ085150			NEJ085300	
10.0	15	8	NEJ10100	NEJ10150	NEJ10200	NEJ10250	NEJ10300	NEJ10350
12.0	17	8	NEJ12100	NEJ12150	NEJ12200	NEJ12250	NEJ12300	NEJ12350
14.0	19	8	NEJ14100	NEJ14150		NEJ14250	NEJ14300	NEJ14350
15.0	20	8	NEJ15100	NEJ15150		NEJ15250		
16.0	21	8	NEJ16100	NEJ16150	NEJ16200	NEJ16250	NEJ16300	NEJ16350
18.0	23	8	NEJ18100	NEJ18150		NEJ18250		NEJ18350
20.0	25	8	NEJ20100	NEJ20150		NEJ20250		NEJ20350
25.0	30	8		NEJ25150		NEJ25250		NEJ25350

P	H	T	Product Code					
			L400	L450	L650	L800	L1000	L1200
3.0	6	4	NEJ03400	NEJ03450				
4.0	8	6	NEJ04400	NEJ04450				
5.0	9	6	NEJ05400	NEJ05450				
6.0	10	6	NEJ06400	NEJ06450	NEJ06650	NEJ06800		
6.5	10	6	NEJ065400					
7.0	11	6	NEJ07400	NEJ07450	NEJ07650			
8.0	13	8	NEJ08400	NEJ08450	NEJ08650			
10.0	15	8	NEJ10400	NEJ10450	NEJ10650	NEJ10800	NEJ101000	
12.0	17	8	NEJ12400	NEJ12450	NEJ12650	NEJ12800	NEJ121000	
14.0	19	8	NEJ14400	NEJ14450	NEJ14650			
15.0	20	8		NEJ15450				
16.0	21	8	NEJ16400	NEJ16450	NEJ16650	NEJ16800	NEJ161000	NEJ161200
18.0	23	8		NEJ18450	NEJ18650			
20.0	25	8		NEJ20450	NEJ20650	NEJ20800	NEJ201000	
25.0	30	8		NEJ25450	NEJ25650	NEJ25800		



Material: H13
 Hardness:
 Core = 40-45RC
 Surface = 70-72RC



P	H	T	Product Code		
			L100	L150	L250
2.1	6	4		NEJ021150	
3.1	7	4			NEJ031250
4.1	7	6		NEJ041150	NEJ041250
5.1	8	6			NEJ051250
6.1	10	6			NEJ061250
8.1	13	8			NEJ081250
10.1	15	8			NEJ101250
12.1	17	8	NEJ121100	NEJ121150	NEJ121250

JIS Soft Core Ejector Pins - Metric

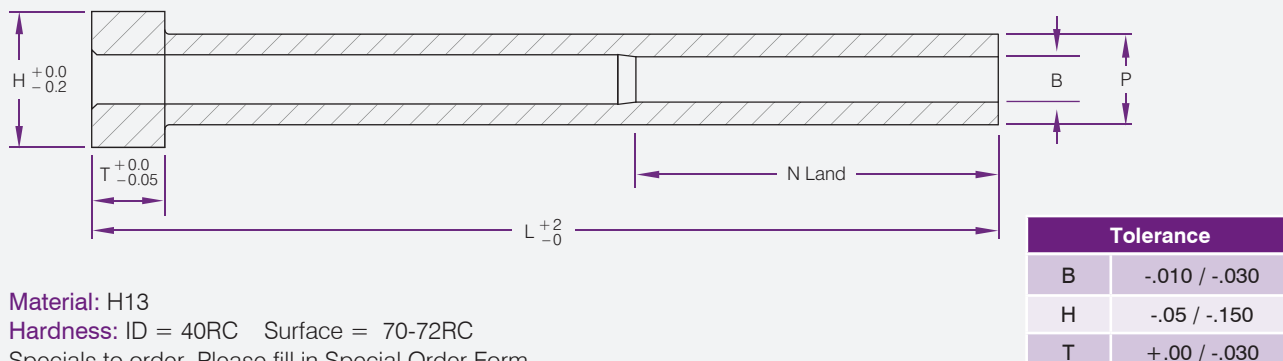
EJECTOR PINS



Material: H13
 Hardness:
 Core = 40-45RC



P	H	T	Product Code	
			L150	L250
3	6	4	SEJ03150	SEJ03250
4	7	6	SEJ04150	SEJ04250
5	9	6	SEJ05150	SEJ05250
6	10	6	SEJ06150	SEJ06250
7	11	6	SEJ07150	SEJ07250
8	13	8	SEJ08150	SEJ08250
10	15	8	SEJ10150	SEJ10250
12	17	8	SEJ12150	SEJ12250
14	19	8		SEJ14250
15	20	8	SEJ15150	
16	21	8		SEJ16250
18	23	8		SEJ18250
20	25	8		SEJ20250
25	30	8		SEJ25250

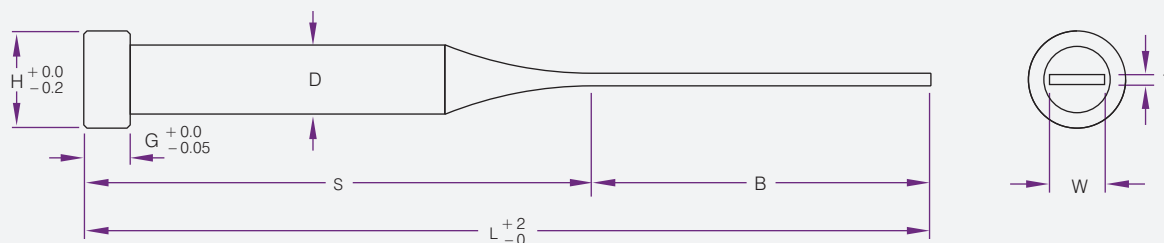


Material: H13

Hardness: ID = 40RC Surface = 70-72RC

Specials to order. Please fill in Special Order Form.

B ID	P OD	H	T	Product Code						
				L 100	L 125	L 150	L 175	L 200	L 225	L 250
				N=40		N=50		N=60		N=70
2.0	4	8	6	MS204100	MS204125	MS204150				
2.0	5	9	6	MS205100	MS205125	MS205150	MS205175	MS205200		
2.0	6	10	6	MS206100	MS206125	MS206150	MS206175	MS206200		
2.5	5	9	6	MS2505100	MS2505125	MS2505150	MS2505175	MS2505200	MS2505225	
2.5	6	10	6	MS2506100	MS2506125	MS2506150	MS2506175	MS2506200	MS2506225	MS2506250
3.0	5	9	6	MS305100	MS305125	MS305150	MS305175	MS305200		
3.0	6	10	6	MS306100	MS306125	MS306150	MS306175	MS306200	MS306225	MS306250
3.0	7	11	6	MS307100	MS307125	MS307150	MS307175	MS307200	MS307225	MS307250
3.5	6	10	6	MS3506100	MS3506125	MS3506150	MS3506175	MS3506200	MS3506225	MS3506250
3.5	7	11	6	MS3507100	MS3507125	MS3507150	MS3507175	MS3507200	MS3507225	MS3507250
4.0	6	10	6	MS406100	MS406125	MS406150	MS406175	MS406200		
4.0	7	11	6	MS407100	MS407125	MS407150	MS407175	MS407200	MS407225	MS407250
4.0	8	13	8	MS408100	MS408125	MS408150	MS408175	MS408200	MS408225	MS408250
4.5	7	11	6	MS4507100	MS4507125	MS4507150	MS4507175	MS4507200	MS4507225	MS4507250
4.5	8	13	8	MS4508100	MS4508125	MS4508150	MS4508175	MS4508200	MS4508225	MS4508250
5.0	8	13	8	MS508100	MS508125	MS508150	MS508175	MS508200	MS508225	MS508250
5.0	10	15	8	MS510100	MS510125	MS510150	MS510175	MS510200		
5.5	8	13	8	MS5508100	MS5508125	MS5508150				
6.0	10	15	8	MS610100	MS610125	MS610150	MS610175	MS610200	MS610225	MS610250
6.5	10	15	8	MS6510100	MS6510125	MS6510150	MS6510175	MS6510200	MS6510225	MS6510250
6.5	12	17	8	MS6512100		MS6512150		MS6512200		MS6512250
8.0	12	17	8	MS812100	MS812125	MS812150	MS812175	MS812200	MS812225	MS812250
10	15	20	8	MS1015100	MS1015125	MS1015150		MS1015200		MS1015250
B ID	P OD	H	T	Product Code						
				L 275	L 300	L 325	L 350			
				N=70				N= 80		
4.0	7	11	6	MS407275	MS407300					
4.0	8	13	8	MS408275	MS408300					
5.0	8	13	8	MS508275	MS508300	MS508325		MS508350		
6.0	10	15	8	MS610275	MS610300	MS610325		MS610350		
8.0	12	17	8	MS812275	MS812300			MS812350		



Material: SK HSI Nitrided

Specials to order. Please fill in Special Order Form.

Product Code	T	W	D	L	S	B	G	H
MEB14100	1	4	5	100	40	60	6	9
MEB14125	1	4	5	125	50	75	6	9
MEB14150	1	4	5	150	60	90	6	9
MEB14175	1	4	5	175	70	105	6	9
MEB14200	1	4	5	200	80	120	6	9
MEB125125	1.2	5	6	125	50	75	6	10
MEB125150	1.2	5	6	150	60	90	6	10
MEB125175	1.2	5	6	175	70	105	6	10
MEB125200	1.2	5	6	200	80	120	6	10
MEB126125	1.2	6	7	125	50	75	6	11
MEB126100	1.2	6	7	100	40	60	6	11
MEB126150	1.2	6	7	150	60	90	6	11
MEB126175	1.2	6	7	175	70	105	6	11
MEB126200	1.2	6	7	200	80	120	6	11
MEB128125	1.2	8	10	125	50	75	8	15
MEB128150	1.2	8	10	150	60	90	8	15
MEB128175	1.2	8	10	175	70	105	8	15
MEB128200	1.2	8	10	200	80	120	8	15
MEB1510150	1.5	10	12	150	60	90	8	17
MEB1510175	1.5	10	12	175	70	105	8	17
MEB1510200	1.5	10	12	200	80	120	8	17
MEB155125	1.5	5	6	125	50	75	6	10
MEB155150	1.5	5	6	150	60	90	6	10
MEB155175	1.5	5	6	175	70	105	6	10
MEB155200	1.5	5	6	200	80	170	6	10
MEB156125	1.5	6	7	125	50	75	6	11
MEB156150	1.5	6	7	150	60	90	6	11
MEB156175	1.5	6	7	175	70	105	6	11
MEB156200	1.5	6	7	200	80	120	6	11

Product Code	T	W	D	L	S	B	G	H
MEB158125	1.5	8	10	125	50	75	8	15
MEB158150	1.5	8	10	150	60	90	8	15
MEB158175	1.5	8	10	175	70	105	8	15
MEB158200	1.5	8	10	200	80	120	8	15
MEB26100	2	6	7	100	40	60	6	11
MEB26125	2	6	7	125	50	75	6	11
MEB26150	2	6	7	150	60	90	6	11
MEB26175	2	6	7	175	70	105	6	11
MEB26200	2	6	7	200	80	120	6	11
MEB28100	2	8	10	100	40	60	8	15
MEB28125	2	8	10	125	50	75	8	15
MEB28150	2	8	10	150	60	90	8	15
MEB28175	2	8	10	175	70	105	8	15
MEB28200	2	8	10	200	80	120	8	15
MEB210125	2	10	12	125	50	75	8	17
MEB210150	2	10	12	150	60	90	8	17
MEB210175	2	10	12	175	70	105	8	17
MEB210200	2	10	12	200	80	120	8	17



Hardness:

Head = HRC45+/- 5

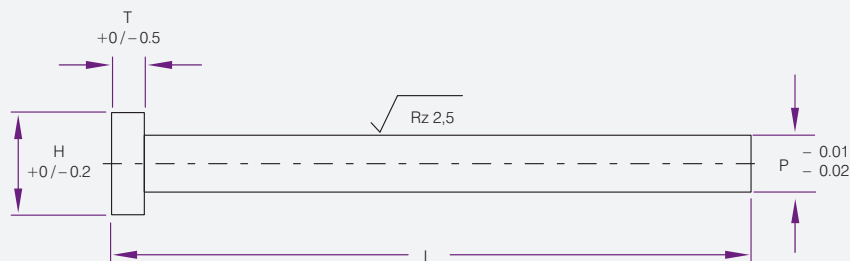
Shaft = HRC60+/-2 Through Hardened

Material:

SUJ-2 Through Hardened Steel

Note:

Please note some items are special orders.



P	H	T	Product Code						
			L 100	L 125	L 150	L 200	L 250	L 300	L 350
1.0	6	4	HEJ010100		HEJ010150	HEJ010200	HEJ010250	HEJ010300	
1.1	6	4	HEJ011100						
1.5	6	4	HEJ015100		HEJ015150	HEJ015200	HEJ015250	HEJ015300	
2.0	6	4	HEJ020100		HEJ020150	HEJ020200	HEJ020250	HEJ020300	HEJ020350
2.1	6	4	HEJ021100		HEJ021150	HEJ021200	HEJ021250		
2.5	6	4	HEJ025100		HEJ025150	HEJ025200	HEJ025250	HEJ025300	HEJ025350
3.0	6	4	HEJ030100		HEJ030150	HEJ030200	HEJ030250	HEJ030300	HEJ030350
3.1	6	4	HEJ031100		HEJ031150	HEJ031200	HEJ031250		
3.5	7	4	HEJ035100		HEJ035150	HEJ035200	HEJ035250	HEJ035300	HEJ035350
4.0	8	6	HEJ040100		HEJ040150	HEJ040200	HEJ040250	HEJ040300	HEJ040350
4.1	8	6	HEJ041100		HEJ041150	HEJ041200	HEJ041250	HEJ041300	
4.5	9	6	HEJ045100		HEJ045150	HEJ045200	HEJ045250	HEJ045300	HEJ045350
5.0	9	6	HEJ050100		HEJ050150	HEJ050200	HEJ050250	HEJ050300	HEJ050350
5.1	9	6	HEJ051100		HEJ051150	HEJ051200	HEJ051250		
5.5	10	6	HEJ055100		HEJ055150	HEJ055200	HEJ055250	HEJ055300	HEJ055350
6.0	10	6	HEJ060100		HEJ060150	HEJ060200	HEJ060250	HEJ060300	HEJ060350
6.1	10	6	HEJ061100		HEJ061150	HEJ061200	HEJ061250	HEJ061300	
6.5	11	6	HEJ065100	HEJ065125	HEJ065150	HEJ065200	HEJ065250	HEJ065300	HEJ065350
7.0	11	6	HEJ070100		HEJ070150	HEJ0, -70200	HEJ070250	HEJ070300	HEJ070350
7.5	13	8	HEJ075100		HEJ075150	HEJ075200	HEJ075250	HEJ075300	HEJ075350
8.0	13	8	HEJ080100		HEJ080150	HEJ080200	HEJ080250	HEJ080300	HEJ080350
8.5	14	8	HEJ085100		HEJ085150	HEJ085200	HEJ085250	HEJ085300	HEJ085350
9.0	14	8	HEJ090100		HEJ090150	HEJ090200	HEJ090250	HEJ090300	HEJ090350
10.0	15	8	HEJ100100		HEJ100150	HEJ100200	HEJ100250	HEJ100300	HEJ100350
10.5	15	8	HEJ105100		HEJ105150	HEJ105200	HEJ105250	HEJ105300	
11.0	15	8	HEJ110100		HEJ110150	HEJ110200	HEJ110250	HEJ110300	
12.0	17	8	HEJ120100		HEJ120150	HEJ120200	HEJ120250	HEJ120300	HEJ120350
12.5	17	8	HEJ125100		HEJ125150	HEJ125200	HEJ125250		
13.0	19	8		HEJ130125	HEJ130150		HEJ130250		
14.0	19	8	HEJ140100		HEJ140150	HEJ140200	HEJ140250	HEJ140300	HEJ140350
15.0	19	8	HEJ150100				HEJ150250	HEJ150300	
16.0	21	8	HEJ160100		HEJ160150	HEJ160200	HEJ160250	HEJ160300	HEJ160350
18.0	21	8	HEJ180100		HEJ180150	HEJ180200	HEJ180250	HEJ180300	
20.0	25	8	HEJ200100		HEJ200150	HEJ200200	HEJ200250	HEJ200300	HEJ200350
25.0	30	8	HEJ250100		HEJ250150	HEJ250200	HEJ250250	HEJ250300	HEJ250350

**Hardness:**

Head = HRC45+/- 5

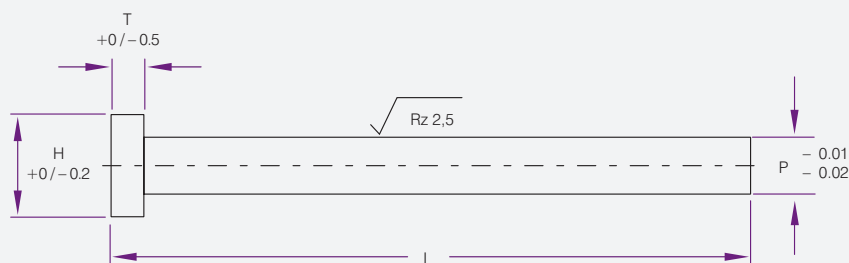
Shaft = HRC60+/-2 Through Hardened

Material:

SUJ-2 Through Hardened Steel

Note:

Please note some items are special orders.



P	H	T					
			L 400	L 500	L 600	L 700	L 800
3.0	6	4	HEJ030400				
5.0	9	6	HEJ050400				
5.5	10	6	HEJ055400				
6.0	10	6	HEJ060400	HEJ060500			
6.5	11	6	HEJ065400	HEJ065500			
7.0	11	6	HEJ070400	HEJ070500			
7.5	13	8	HEJ075400	HEJ075500			
8.0	13	8	HEJ080400	HEJ080500	HEJ080600		
8.5	14	8	HEJ085400	HEJ085500	HEJ085600		
9.0	14	8	HEJ090400	HEJ090500	HEJ090600		
10.0	15	8	HEJ100400	HEJ100500	HEJ100600	HEJ100700	HEJ100800
12.0	17	8	HEJ120400	HEJ120500	HEJ120600	HEJ120700	HEJ120800
14.0	19	8	HEJ140400	HEJ140500	HEJ140600	HEJ140700	HEJ140800
16.0	21	8	HEJ160400	HEJ160500	HEJ160600	HEJ160700	HEJ160800
20.0	25	8	HEJ200400	HEJ200500	HEJ200600	HEJ200700	HEJ200800
25.0	30	8	HEJ250400	HEJ250500	HEJ250600	HEJ250700	HEJ250800



Material:

1.2067 Hardened Steel

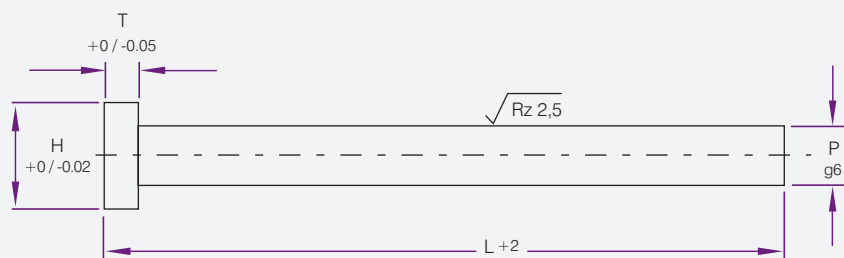
Standard:

DIN1530-AH / ISO6751

Hardness:

Head = HRC45+/- 5

Shaft = HRC60+/-2 Through Hardened



Note:

Please note some items are special orders.

P	H	T	Product Code				
			L 100	L 125	L 160	L 200	L 250
1.0	2.5	1.2	HED0100100		HED0100160		
1.2	2.5	1.2	HED0120100				
1.5	3	1.5	HED0150100	HED0150125	HED0150160		HED0150250
1.6	3	1.5	HED0160100		HED0160160		
2.0	4	2	HED0200100	HED0200125	HED0200160	HED0200200	HED0200250
2.2	4	2	HED0220100	HED0220125			HED0220250
2.5	5	2	HED0250100	HED0250125	HED0250160	HED0250200	HED0250250
2.7	5	2	HED0270100	HED0270125	HED0270160	HED0270200	HED0270250
3.0	6	3	HED0300100		HED0300160	HED0300200	HED0300250
3.2	6	3		HED0320125	HED0320160	HED0320200	HED0320250
3.5	7	3	HED0350100	HED0350125	HED0350160	HED0350200	HED0350250
3.7	7	3	HED0370100	HED0370125	HED0370160	HED0370200	HED0370250
4.0	8	3	HED0400100	HED0400125	HED0400160	HED0400200	HED0400250
4.2	8	3	HED0420100	HED0420125	HED0420160	HED0420200	HED0420250
4.5	8	3	HED0450100		HED0450160	HED0450200	HED0450250
5.0	10	3	HED0500100	HED0500125	HED0500160	HED0500200	HED0500250
5.2	10	3			HED0520160		HED0520250
5.5	10	3	HED0550100	HED0550125	HED0550160	HED0550200	HED0550250
6.0	12	5	HED0600100	HED0600125	HED0600160	HED0600200	HED0600250
6.2	12	5		HED0620125			
6.5	12	5	HED0650100	HED0650125	HED0650160	HED0650200	HED0650250
7.0	12	5	HED0700100			HED0700200	HED0700250
7.5	12	5	HED0750100	HED0750125	HED0750160	HED0750200	HED0750250
8.0	14	5	HED0800100	HED0800125	HED0800160	HED0800200	HED0800250
8.2	14	5	HED0820100	HED0820125		HED0820200	
8.5	14	5	HED0850100	HED0850125	HED0850160	HED0850200	HED0850250
9.0	14	5	HED0900100		HED0900160	HED0900200	HED0900250
10.0	16	5	HED1000100	HED1000125	HED1000160	HED1000200	HED1000250
10.2	16	5	HED1020100			HED1020200	
10.5	16	5	HED1050100	HED1050125	HED1050160	HED1050200	HED1050250
11.0	16	5	HED1100100		HED1100160	HED1100200	HED1100250
12.0	20	7	HED1200100	HED1200125	HED1200160	HED1200200	HED1200250
12.2	20	7		HED1220125		HED1220200	
12.5	20	7	HED1250100	HED1250125	HED1250160	HED1250200	HED1250250
13.0	20	7					HED1300250
14.0	22	7	HED1400100		HED1400160	HED1400200	HED1400250
16.0	22	7	HED1600100	HED1600125	HED1600160	HED1600200	HED1600250
18.0	24	7	HED1800100	HED1800125	HED1800160	HED1800200	HED1800250
20.0	26	8	HED2000100	HED2000125	HED2000160	HED2000200	HED2000250
25.0	32	10			HED2500160	HED2500200	HED2500250
32.0	40	10				HED3200200	HED3200250

**Material:**

1.2067 Hardened Steel

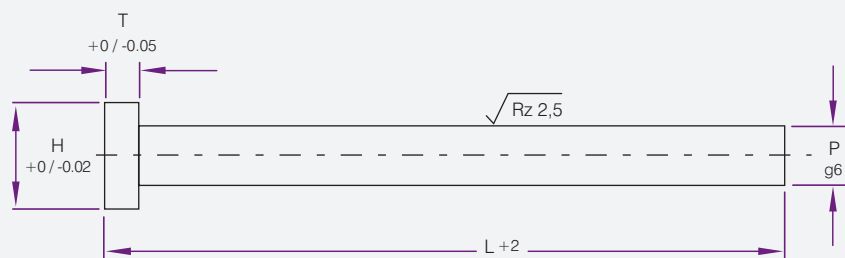
Standard:

DIN1530-AH / ISO6751

Hardness:

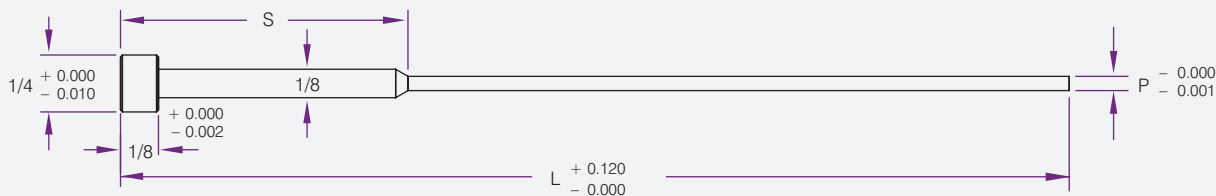
Head = HRC45+/- 5

Shaft = HRC60+/-2 Through Hardened

**Note:**

Please note some items are special orders.

P	H	T	Product Code			
			L 315	L 400	L 500	L 630
2.0	4	2	HED0200315			
2.2	4	2	HED0220315			
2.5	5	2	HED0250315			
2.7	5	2	HED0270315			
3.0	6	3	HED0300315	HED0300400		
3.2	6	3	HED0320315	HED0320400		
3.5	7	3	HED0350315	HED0350400		
3.7	7	3	HED0370315	HED0370400		
4.0	8	3	HED0400315	HED0400400	HED0400500	
4.2	8	3	HED0420315	HED0420400	HED0420500	
4.5	8	3	HED0450315	HED0450400	HED0450500	
5.0	10	3	HED0500315	HED0500400	HED0500500	
5.2	10	3	HED0520315	HED0520400	HED0520500	
5.5	10	3	HED0550315	HED0550400	HED0550500	
6.0	12	5	HED0600315	HED0600400	HED0600500	HED0600630
6.2	12	5		HED0620400	HED0620500	HED0620630
6.5	12	5	HED0650315	HED0650400	HED0650500	HED0650630
7.0	12	5	HED0700315	HED0700400	HED0700500	HED0700630
7.5	12	5	HED0750315	HED0750400	HED0750500	HED0750630
8.0	14	5	HED0800315	HED0800400	HED0800500	HED0800630
8.2	14	5		HED0820400	HED0820500	HED0820630
8.5	14	5	HED0850315	HED0850400	HED0850500	HED0850630
9.0	14	5	HED0900315	HED0900400	HED0900500	HED0900630
10.0	16	5	HED1000315	HED1000400	HED1000500	HED1000630
10.2	16	5		HED1020400	HED1020500	HED1020630
10.5	16	5	HED1050315	HED1050400	HED1050500	HED1050630
11.0	16	5	HED1100315	HED1100400	HED1100500	HED1100630
12.0	20	7	HED1200315	HED1200400	HED1200500	HED1200630
12.2	20	7		HED1220400	HED1220500	HED1220630
12.5	20	7	HED1250315	HED1250400	HED1250500	HED1250630
14.0	22	7	HED1400315	HED1400400	HED1400500	HED1400630
16.0	22	7	HED1600315	HED1600400	HED1600500	HED1600630
18.0	24	7	HED1800315	HED1800400	HED1800500	HED1800630
20.0	26	8	HED2000315	HED2000400	HED2000500	HED2000630
25.0	32	10	HED2500315	HED2500400	HED2500500	HED2500630
32.0	40	10	HED3200315	HED3200400	HED3200500	HED3200630



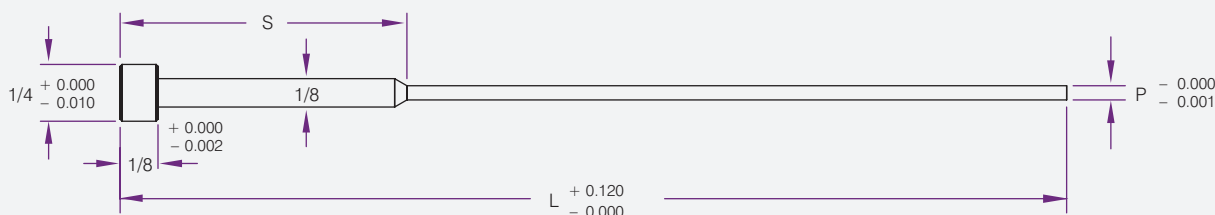
Material: H13

Hardness: Core = 40-45RC

Surface = 70-72RC

P	S	Product Code		
		L 6"	L 10"	L 14"
3/64	1/2	E0306 - 1/2	E0310 - 1/2	
1/16	1/2	E0406 - 1/2	E0410 - 1/2	
5/64	1/2	E0506 - 1/2	E0510 - 1/2	E0514 - 1/2
3/32	1/2	E0606 - 1/2	E0610 - 1/2	
7/64	1/2	E0706 - 1/2	E0710 - 1/2	E0714 - 1/2
3/64	1	E0306 - 1		
1/16	1	E0406 - 1		
5/64	1	E0506 - 1		

P	S	Product Code		
		L 6"	L 10"	L 14"
3/32	1	E0606 - 1		
7/64	1	E0706 - 1		
3/64	2	E0306 - 2	E0310 - 2	E0314 - 2
1/16	2	E0406 - 2	E0410 - 2	E0414 - 2
5/64	2	E0506 - 2	E0510 - 2	E0514 - 2
3/32	2	E0606 - 2	E0610 - 2	E0614 - 2
7/64	2	E0706 - 2	E0710 - 2	E0714 - 2

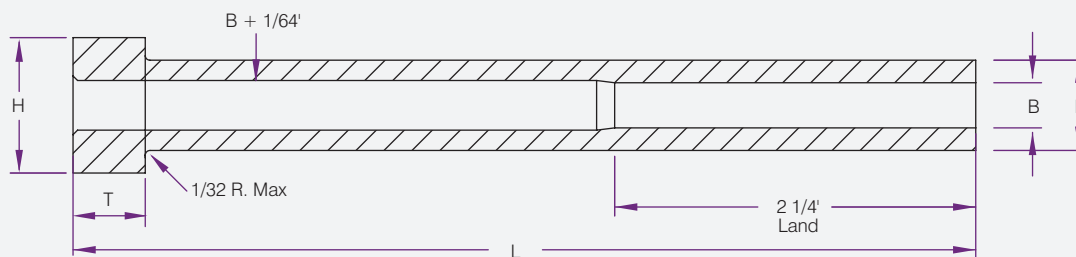


Material: H13

Hardness: Core = 40-45RC

Surface = 70-72RC

Product Code	P	S	L	Over Size
E0310 - 1/2OS	3/64	1/2	10"	+0.005
E0310 - 2OS	3/64	2	10"	+0.005
E0410 - 1/2OS	1/16	1/2	10"	+0.005
E0410 - 2OS	1/16	2	10"	+0.005
E0510 - 1/2OS	5/64	1/2	10"	+0.005
E0510 - 2OS	5/64	2	10"	+0.005
E0610 - 1/2OS	3/32	1/2	10"	+0.005
E0610 - 2OS	3/32	2	10"	+0.005
E0710 - 2OS	7/64	2	10"	+0.005



Material: H13

Hardness:

Core = 40-45RC

Surface = 70-72RC

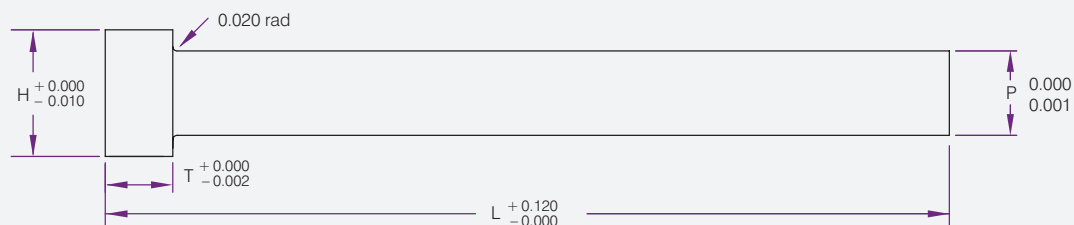
IS06 and IS08 have a 1 3/4' land.

P Tolerance	
Head Diameter (H)	-.000 / +.010
Head Thickness (T)	-.000 / +.002
Sleeve Diameter (P)	-.000 / +.001
Sleeve ID (B)	+.0005 / -.0000
Length (L)	+.12 / -.00

B ID	P OD	H	T	Product Code									
				L 3"	L 4"	L 5"	L 6"	L 7"	L 8"	L 9"	L 10"	L 11"	L 12"
3/32	3/16	3/8	3/16	IS0603	IS0604	IS0605	IS0606	IS0607					
1/8	7/32	13/32	3/16	IS0803	IS0804	IS0805	IS0806	IS0807					
5/32	1/4	7/16	3/16		IS1004	IS1005	IS1006	IS1007	IS1008	IS1009	IS1010		
3/16	5/16	1/2	1/4		IS1204	IS1205	IS1206	IS1207	IS1208	IS1209	IS1210	IS1211	IS1212
7/32	11/32	9/16	1/4		IS1404	IS1405	IS1406	IS1407	IS1408	IS1409	IS1410		
1/4	3/8	5/8	1/4	IS1603	IS1604	IS1605	IS1606	IS1607	IS1608	IS1609	IS1610	IS1611	IS1612
5/16	7/16	11/16	1/4		IS2004	IS2005	IS2006	IS2007	IS2008	IS2009	IS2010	IS2011	IS2012
3/8	1/2	3/4	1/4		IS2404	IS2405	IS2406	IS2407	IS2408	IS2409	IS2410	IS2411	IS2412
7/16	5/8	7/8	1/4		IS2804	IS2805	IS2806	IS2807	IS2808	IS2809	IS2810	IS2811	IS2812
1/2	11/16	15/16	1/4		IS3204	IS3205	IS3206	IS3207	IS3208	IS3209	IS3210	IS3211	IS3212
9/16	3/4	1"	1/4		IS3604	IS3605	IS3606	IS3607	IS3608	IS3609	IS3610	IS3611	IS3612
5/8	7/8	1 1/8	1/4		IS4004	IS4005	IS4006	IS4007	IS4008	IS4009	IS4010	IS4011	IS4012
3/4	1"	1 1/4	1/4		IS4804	IS4805	IS4806	IS4807	IS4808	IS4809	IS4810	IS4811	IS4812



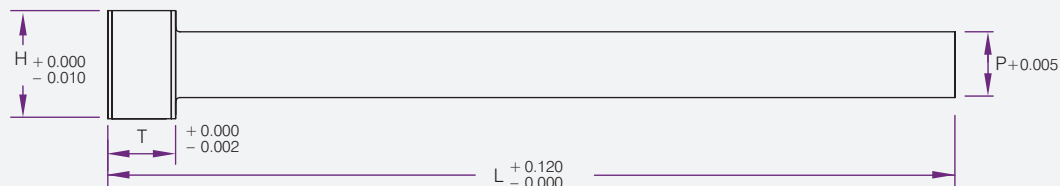
Material: H13
Hardness:
 Core = 40-45RC
 Surface = 70-72RC



P	H	T	Product Code					
			L 6"	L 10"	L 14"	L 18"	L 25"	L 36"
3/64	1/4	1/8	E0306					
1/16	1/4	1/8	E0406					
5/64	1/4	1/8	E0506					
3/32	1/4	1/8	E0606	E0610				
7/64	1/4	1/8	E0706	E0710				
1/8	1/4	1/8	E0806	E0810	E0814			
9/64	1/4	1/8	E0906	E0910	E0914			
5/32	9/32	5/32	E1006	E1010	E1014	E1018		
11/64	11/32	3/16		E1110	E1114			
3/16	3/8	3/16	E1206	E1210	E1214	E1218	E1225	
13/64	3/8	3/16		E1310	E1314			
7/32	13/32	3/16	E1406	E1410	E1414	E1418		
15/64	15/64	3/16		E1510	E1514			
1/4	7/16	3/16	E1606	E1610	E1614	E1618	E1625	
17/64	7/16	1/4		E1710	E1714		E1725	
9/32	7/16	1/4	E1806	E1810	E1814	E1818	E1825	
19/64	1/2	1/4		E1910	E1914			
5/16	1/2	1/4	E2006	E2010	E2014	E2018	E2025	
21/64	9/16	1/4		E2110	E2114			
11/32	9/16	1/4	E2206	E2210	E2214		E2225	
23/64	5/8	1/4		E2310	E2314			
3/8	5/8	1/4	E2406	E2410	E2414	E2418	E2425	
13/32	11/16	1/4	E2606	E2610	E2614	E2618	E2625	
7/16	11/16	1/4	E2706	E2710	E2714	E2718	E2725	
7/16	11/16	1/4	E2806	E2810	E2814	E2818	E2825	
15/32	3/4	1/4		E3010	E3014	E3018		
1/2	3/4	1/4	E3206	E3210	E3214	E3218	E3225	
9/16	13/16	1/4	E3606	E3610	E3614	E3618		
5/8	7/8	1/4	E4006	E4010	E4014	E4018	E4025	
11/16	15/16	1/4		E4210				
11/16		1/4		E4410				
3/4	1"	1/4	E4806	E4810	E4814	E4818	E4825	
7/8	1 1/16"	1/4	E5606	E5610	E5614	E5618		
1"	1 1/14"	1/4	E6406	E6410	E6414	E6418	E6425	E6436



Material: H13
Hardness:
 Core = 40-45RC
 Surface = 70-72RC



Product Code	P	H	T	L	Over Size
E0810 - OS	1/8	1/4	1/8	10"	+0.005
E1010 - OS	5/32	9/32	5/32	10"	+0.005
E1210 - OS	3/16	3/8	3/16	10"	+0.005
E1610 - OS	1/4	7/16	3/16	10"	+0.005
E2010 - OS	5/16	1/2	1/4	10"	+0.005
E2025 - OS	5/16			25"	+0.005
E2410 - OS	3/8	5/8	1/4	10"	+0.005
E2425 - OS	3/8			25"	+0.005
E2810 - OS	7/16	11/16	1/4	10"	+0.005
E3210 - OS	1/2	3/4	1/4	10"	+0.005

Soft Pins - Imperial

EJECTOR PINS

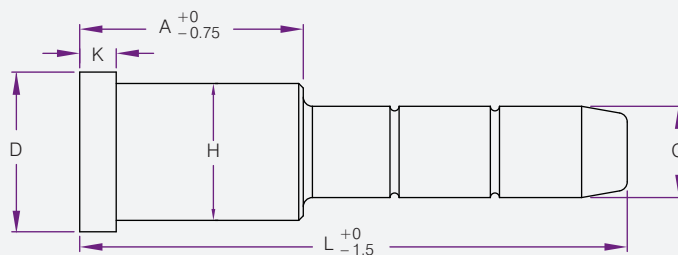


Material: H13
Hardness: 40-45RC



P	H	T	Product Code	
			L 6"	L 10"
1/8	1/4	1/8	ES0406	ES0410
5/32	9/32	5/32	ES0506	ES0510
1/8			ES0806	ES0810
5/32	9/32	5/32	ES1006	ES1010
3/16	3/8	3/16	ES1206	ES1210
7/32	13/32	3/16	ES1406	ES1410
1/4	7/16	3/16	ES1606	ES1610
9/32	7/16	1/4		ES1810

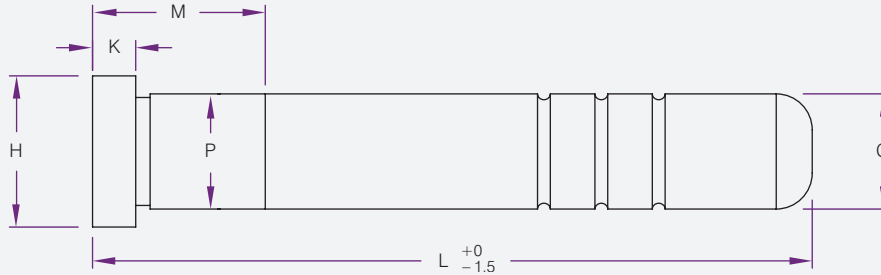
P	H	T	Product Code		
			L 6"	L 10"	L 14"
5/16	1/2	1/4		ES2010	
3/8	5/8	1/4	ES2406	ES2410	ES2414
7/16	11/16	1/4	ES2806	ES2810	ES2814
1/2	3/4	1/4	ES3206	ES3210	ES3214
9/16		1/4	ES3606		
5/8	7/8	1/4	ES4006	ES4010	ES4014
3/4	1	1/4	ES4806	ES4810	ES4814



Material: SUJ-2
Hardness: 60+/-2RC

General Tolerance			
G	H	D	K
16F7	25K6	30	6
20F7	30K6	35	8
25F7	35K6	40	8
30F7	42K7	47	10

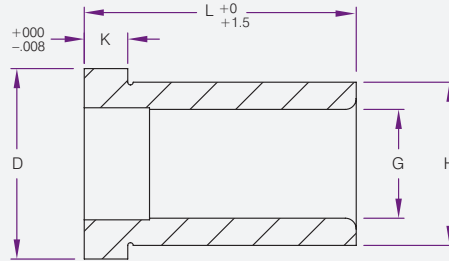
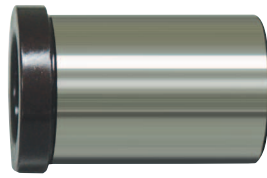
Product Code	G	A	L	Product Code	G	A	L	Product Code	G	A	L	Product Code	G	A	L
MP162460	16	24	60	MP203480	20	33	80	MP252480	25	24	80	MP2569120	25	69	120
MP162480	16	24	80	MP2034100	20	33	100	MP2524100	25	24	100	MP2569140	25	69	140
MP1624100	16	24	100	MP2034120	20	33	120	MP2524120	25	24	120	MP2569160	25	69	160
MP1624120	16	24	100	MP2034140	20	33	140	MP252960	25	29	60	MP2569180	25	69	180
MP1624200	16	24	200	MP2034160	20	33	160	MP252980	25	29	80	MP2579140	25	79	140
MP162960	16	29	60	MP2034180	20	33	180	MP2529100	25	29	100	MP2579160	25	79	160
MP162980	16	29	80	MP203980	20	39	80	MP2529120	25	29	120	MP2579180	25	79	180
MP1629100	16	29	100	MP2039100	20	39	100	MP2529140	25	29	140	MP3029120	30	29	120
MP1629120	16	29	120	MP2039120	20	39	120	MP253480	25	34	80	MP3039120	30	39	120
MP1629140	16	29	140	MP2039140	20	39	140	MP2534100	25	34	100	MP3039140	30	39	140
MP163460	16	34	60	MP2039160	20	39	160	MP2534120	25	34	120	MP3039160	30	39	160
MP163480	16	34	80	MP2039180	20	39	180	MP2534140	25	34	140	MP3039200	30	39	200
MP1634100	16	34	100	MP204480	20	44	80	MP2534160	25	34	160	MP3039220	30	39	220
MP1634120	16	34	120	MP2044100	20	44	100	MP2534180	25	34	180	MP3044120	30	44	120
MP1634140	16	34	140	MP2044120	20	44	120	MP253980	25	39	80	MP3044140	30	44	140
MP1634160	16	34	160	MP2044140	20	44	140	MP2539100	25	39	100	MP3044160	30	44	160
MP163960	16	39	60	MP2044160	20	44	160	MP2539120	25	39	120	MP3044200	30	44	200
MP163980	16	39	80	MP2044180	20	44	180	MP2539140	25	39	140	MP3049120	30	49	120
MP1639100	16	39	100	MP204980	20	49	80	MP2539160	25	39	160	MP3049140	30	49	140
MP1639120	16	39	120	MP2049100	20	49	100	MP2539180	25	39	180	MP3049160	30	49	160
MP1639140	16	39	140	MP2049120	20	49	120	MP254480	25	44	80	MP3049200	30	49	200
MP1639160	16	39	160	MP2049140	20	49	140	MP2544100	25	44	100	MP3059120	30	59	120
MP164460	16	44	60	MP2049160	20	49	160	MP2544120	25	44	120	MP3059140	30	59	140
MP164480	16	44	80	MP2049180	20	49	180	MP2544140	25	44	140	MP3059160	30	59	160
MP1644100	16	44	100	MP2049200	20	49	200	MP2544160	25	44	160	MP3059200	30	59	200
MP1644120	16	44	120	MP2059100	20	59	100	MP2544180	25	44	180	MP3059220	30	59	220
MP1644140	16	44	140	MP2059120	20	59	120	MP2549100	25	49	100	MP3069120	30	69	120
MP1644160	16	44	160	MP2059140	20	59	140	MP2549120	25	49	120	MP3069140	30	69	140
MP202460	20	24	60	MP2059160	20	59	160	MP2549140	25	49	140	MP3069160	30	69	160
MP202480	20	24	80	MP2059180	20	59	180	MP2549160	25	49	160	MP3069200	30	69	200
MP2024120	20	24	120	MP2069120	20	69	120	MP2549180	25	49	180	MP3069220	30	69	220
MP202960	20	29	60	MP2069140	20	69	140	MP2549240	25	49	240	MP3069140	30	79	140
MP202980	20	29	80	MP2069160	20	69	160	MP2559100	25	59	100	MP3079120	30	79	120
MP2029100	20	29	100	MP2069180	20	69	180	MP2559120	25	59	120	MP3079140	30	79	140
MP2029120	20	29	120	MP2079120	20	79	120	MP2559140	25	59	140	MP3079160	30	79	160
MP2029140	20	29	140	MP2079140	20	79	140	MP2559160	25	59	160	MP3079200	30	79	200
MP2029160	20	29	160	MP2079160	20	79	160	MP2559180	25	59	180	MP3079220	30	79	220
				MP2079180	20	79	180	MP2559240	25	59	240				
				MP2079200	20	79	200								



Material: SUJ-2
Hardness: 60+/-2RC

General Dimensions				
Nom Dia	H	K	P	M
16	21	6	K6	50-90=19, 100-200=24, 220-240=34
20	25	6	K6	50-100=19, 120-140=24, 160-240=34
25	30	8	K6	50-120=24, 140=29, 160-300=34
30	35	8	K6	70-80=24, 90-160=29, 180-200=39, 220-300=49
35	40	8	K6	90-120=29, 140-240=49, 260-300=59
40	45	10	K7	100-160=35, 180-300=45
50	56	12	K7	140-400=45, 450-500=80

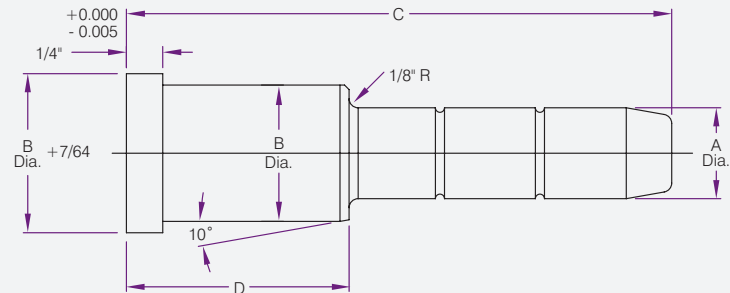
L	Product Code							
	G16	G20	G25	G30	G35	G40	G50	G60
50	ML1650	ML2050	ML2550					
60	ML1660	ML2060	ML2560					
70	ML1670	ML2070	ML2570	ML3070				
80	ML1680	ML2080	ML2580	ML3080				
90	ML1690	ML2090	ML2590	ML3090	ML3590			
100	ML16100	ML20100	ML25100	ML30100	ML35100	ML40100		
120	ML16120	ML20120	ML25120	ML30120	ML35120	ML40120		
140	ML16140	ML20140	ML25140	ML30140	ML35140	ML40140	ML50140	
160	ML16160	ML20160	ML25160	ML30160	ML35160	ML40160	ML50160	
180	ML16180	ML20180	ML25180	ML30180	ML35180	ML40180	ML50180	
200	ML16200	ML20200	ML25200	ML30200	ML35200	ML40200	ML50200	
220	ML16220	ML20220	ML25220	ML30220	ML35220	ML40220	ML50220	
240	ML16240	ML20240	ML25240	ML30240	ML35240	ML40240	ML50240	
260			ML25260	ML30260	ML35260	ML40260	ML50260	
280			ML25280	ML30280	ML35280	ML40280	ML50280	
300			ML25300	ML30300	ML35300	ML40300	ML50300	
350						ML40350	ML50350	
400						ML40400	ML50400	ML60400
450							ML50450	
500							ML50500	



Material: SUJ2
Hardness: 60+/-2RC

G	H	Tolerance	D	K
16	25	+0.021 +0.008 +0.025 +0.009	30	6
20	30		35	8
25	35		40	8
30	42	+0.018 +0.002	47	10
35	48		53	10
40	55	+0.021 +0.002	60	10
50	70		76	12

L Length	Product Code							
	G 16mm M16	G 20mm M20	G 25mm M25	G 30mm M30	G 35mm M35	G 40mm M40	G 50mm M50	G 60mm M60
20	MB1620	MB2020	MB2520	MB3020	MB3520			
25	MB1625	MB2025	MB2525	MB3025	MB3525			
30	MB1630	MB2030	MB2530	MB3030	MB3530			
35	MB1635	MB2035	MB2535	MB3035	MB3535	MB4035		
40	MB1640	MB2040	MB2540	MB3040	MB3540	MB4040		
45	MB1645	MB2045	MB2545	MB3045	MB3545	MB4045		
50	MB1650	MB2050	MB2550	MB3050	MB3550	MB4050	MB5050	
55	MB1655	MB2055	MB2555	MB3055	MB3555			
60	MB1660	MB2060	MB2560	MB3060	MB3560	MB4060	MB5060	
65		MB2065	MB2565	MB3065	MB3565			
70	MB1670	MB2070	MB2570	MB3070	MB3570	MB4070	MB5070	
80		MB2080	MB2580	MB3080	MB3580	MB4080	MB5080	
90		MB2090	MB2590	MB3090	MB3590	MB4090	MB5090	
100		MB20100	MB25100	MB30100	MB35100	MB40100	MB50100	MB60100
110		MB20110	MB25110	MB30110	MB35110	MB40110	MB50110	
120		MB20120	MB25120	MB30120	MB35120	MB40120	MB50120	MB60120
130			MB25130	MB30130	MB35130	MB40130	MB50130	
140				MB30140	MB35140	MB40140	MB50140	
150				MB30150	MB35150	MB40150	MB50150	MB60150



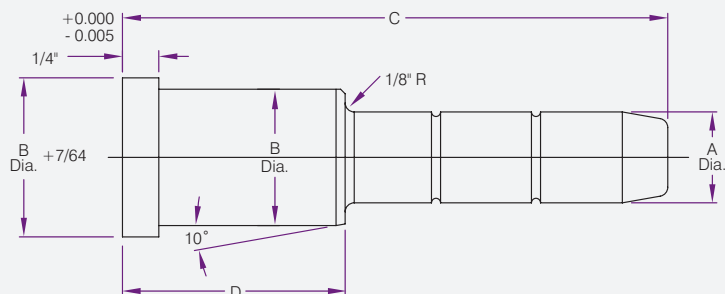
Material: SUJ-2
Hardness: 60+/-2RC

A Nominal: 1/2" B Nominal: 5/8"	
A Tolerance	B Tolerance
0.4990" / 0.4995"	0.6264" / 0.6257"

A Nominal: 5/8" B Nominal: 7/8"	
A Tolerance	B Tolerance
0.6237" / 0.6244"	0.8758" / 0.8763"

A Nominal: 1/2" B Nominal: 5/8"		
Product Code	Dimensions	
	C	D
GP002	2 3/4"	1 1/2"
GP000	3 1/4"	7/8"
GP004	3 1/4"	1 1/2"
GP006	3 3/4"	2 7/16"
GP001	4 1/4"	1 3/8"
GP028	2 1/4"	1 3/8"

A Nominal: 5/8" B Nominal: 7/8"		
Product Code	Dimensions	
	C	D
GP162	2 1/2"	7/8"
GP165	2 1/2"	1 3/8"
GP163	3"	7/8"
GP166	3"	1 3/8"
GP169	3"	1 7/8"
GP164	3 1/2"	7/8"
GP167	3 1/2"	1 3/8"
GP190	3 1/2"	1 7/8"
GP193	3 1/2"	2 3/8"
GP168	4"	1 3/8"
GP191	4"	1 7/8"
GP194	4"	2 3/8"
GP192	4 1/2"	1 7/8"
GP195	4 1/2"	2 3/8"
GP196	5"	2 3/8"

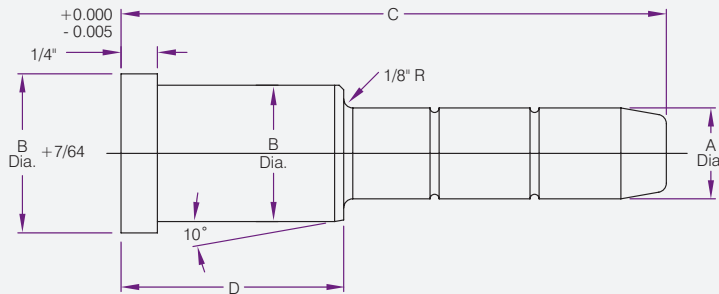


Material: SUJ-2

Hardness: 60+/-2RC

A Nominal: 3/4" B Nominal: 1"	
A Tolerance	B Tolerance
0.7483" / 0.7495"	1.0016" / 1.008"

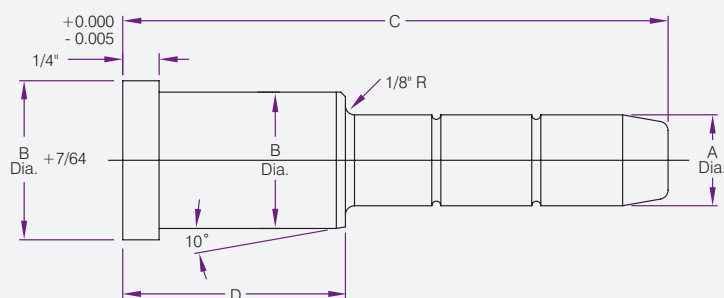
A Nominal: 3/4" B Nominal: 1"		
Product Code	Dimension	
	C	D
GP012	2 5/8"	1 3/8"
GP003	2 7/8"	7/8"
GP009	2 7/8"	1 1/8"
GP010	2 7/8"	1 1/2"
GP005	3 1/2"	7/8"
GP011	3 1/4"	1 1/8"
GP017	3 1/4"	1 3/8"
GP014	3 3/8"	2"
GP007	3 3/4"	7/8"
GP013	3 3/4"	1 3/8"
GP065	3 3/4"	1 1/2"
GP023	3 3/4"	1 7/8"
GP016	4 1/8"	1 1/2"
GP019	4 1/4"	1 3/8"
GP060	4 1/4"	1 7/8"
GP066	4 1/4"	2"
GP024	4 1/4"	2 3/8"
GP062	4 3/4"	7/8"
GP025	4 3/4"	1 7/8"
GP061	4 3/4"	2 3/8"
GP018	4 7/8"	2"
GP015	5 1/4"	1 1/8"
GP063	5 1/4"	1 3/8"
GP026	5 1/4"	2 3/8"
GP020	6"	1 3/8"
GP021	6"	1 7/8"
GP064	6 1/4"	2 3/8"
GP050	7 1/8"	1 3/4"
GP022	7 1/2"	2 3/8"
GP053	8 5/8"	1 3/4"
GP056	10 1/8"	1 3/4"
GP059	11 5/8"	1 3/4"



Material: SUJ-2
Hardness: 60+/-2RC

A Nominal: 7/8" B Nominal: 1 1/4"	
A Tolerance	B Tolerance
0.873" / 0.874"	1.251" / 1.252"

A Nominal: 7/8" B Nominal: 1 1/4"		
Product Code	Dimension	
	C	D
GP071	2 3/4"	7/8"
GP074	2 3/4"	1 3/8"
GP084	3 1/4"	7/8"
GP072	3 1/4"	1 1/8"
GP085	3 1/4"	1 3/8"
GP086	3 3/4"	7/8"
GP087	3 3/4"	1 3/8"
GP088	3 3/4"	1 7/8"
GP073	4 1/4"	1 1/8"
GP100	4 1/4"	1 7/8"
GP081	4 1/2"	2 3/8"
GP101	4 3/4"	7/8"
GP075	4 3/4"	1 3/8"
GP077	4 3/4"	1 7/8"
GP089	5 1/4"	2 3/8"
GP076	5 3/4"	1 3/8"
GP078	5 3/4"	1 7/8"
GP082	6"	2 7/8"
GP102	6 1/4"	2 3/8"
GP079	6 1/2"	1 3/8"
GP090	7 5/8"	1 3/4"
GP080	8"	1 3/8"
GP093	9 1/8"	1 3/4"
GP083	9 1/2"	1 3/8"
GP096	10 5/8"	1 3/4"
GP099	12 1/8"	1 3/4"



Material: SUJ-2
Hardness: 60+/-2RC

A Nominal: 1 1/4"
B Nominal: 1 3/4"

A Tolerance	B Tolerance
0.998" / 0.999"	1.376" / 1.377"

A Nominal: 1"
B Nominal: 1 3/8"

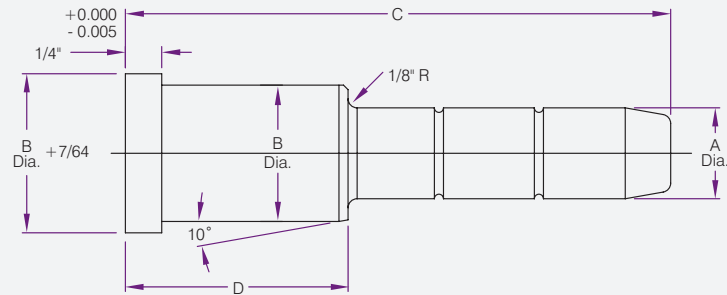
A Tolerance	B Tolerance
0.998" / 0.999"	1.376" / 1.377"

A Nominal: 1 1/4"
B Nominal: 1 3/4"

Product Code	Dimension	
	C	D
GP116	3"	7/8"
GP123	3 1/2"	1 3/8"
GP125	3 3/4"	1 7/8"
GP117	4"	7/8"
GP118	4"	1 3/8"
GP127	4 1/4"	1 7/8"
GP158	4 1/4"	2"
GP126	4 3/8"	2 1/4"
GP120	4 1/2"	1 3/8"
GP119	4 1/2"	2 3/8"
GP130	4 7/8"	2 1/4"
GP129	5 1/4"	1 7/8"
GP128	5 3/8"	2 3/4"
GP121	5 1/2"	1 3/8"
GP136	5 1/2"	2 3/8"
GP142	5 1/2"	2 7/8"
GP143	6"	2 7/8"
GP139	6"	3 3/4"
GP138	6 1/4"	1 7/8"

A Nominal: 1"
B Nominal: 1 3/8"

Product Code	Dimension	
	C	D
GP131	6 3/8"	3"
GP122	6 1/2"	1 3/8"
GP141	6 1/2"	2 3/8"
GP144	6 1/2"	2 7/8"
GP159	6 1/2"	3 7/8"
GP156	7"	1 7/8"
GP137	7 1/4"	2 3/4"
GP157	7 1/4"	2 3/8"
GP155	7 1/2"	2 7/8"
GP124	7 1/2"	2 1/2"
GP132	8"	1 3/8"
GP134	8"	2 3/4"
GP140	9 1/4"	1 3/8"
GP133	10"	1 3/8"
GP145	10"	2 1/4"
GP135	10"	2 3/4"
GP148	11 1/2"	2 1/4"
GP151	13"	2 1/4"
GP154	14 1/2"	2 1/4"



Material: SUJ-2
Hardness: 60+/-2RC

A Nominal: 1 1/4"
B Nominal: 1 3/4"

A Tolerance	B Tolerance
1.248" / 1.249"	1.751" / 1.752"

A Nominal: 1 1/2"
B Nominal: 2"

A Tolerance	B Tolerance
1.748" / 1.749"	2.251" / 2.252"

A Nominal: 1 1/4"
B Nominal: 1 3/4"

Product Code	Dimension	
	C	D
GP043	4 3/4"	1 7/8"
GP032	5 1/2"	1 3/8"
GP044	5 3/4"	1 7/8"
GP046	5 3/4"	2 3/8"
GP041	6 3/8"	2 3/4"
GP035	6 3/8"	3"
GP042	6 3/8"	3 3/4"
GP033	6 1/2"	1 3/8"
GP045	6 3/4"	1 7/8"
GP047	6 3/4"	2 3/8"
GP038	7 3/8"	2 3/4"
GP036	7 3/8"	3 3/4"
GP048	7 3/8"	4"
GP034	7 1/2"	1 3/8"
GP031	7 5/8"	4 7/8"
GP037	8"	2 3/4"
GP039	9"	2 3/4"
GP049	9 1/4"	1 7/8"
GP040	9 3/8"	4 3/4"

A Nominal: 1 1/2"
B Nominal: 2"

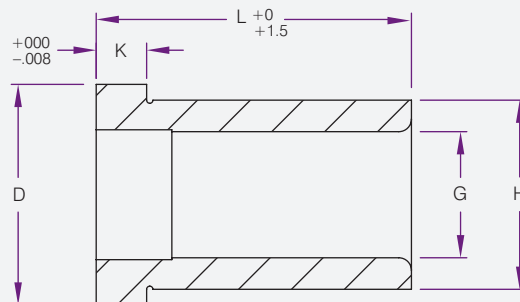
Product Code	Dimension	
	C	D
GP200	6 1/2"	3"

A Nominal: 1 3/4"
B Nominal: 2 1/4"

A Tolerance	B Tolerance
1.748" / 1.749"	2.251" / 2.252"

A Nominal: 1 3/4"
B Nominal: 2 1/4"

Product Code	Dimension	
	C	D
GP300	8"	4"
GP310	9"	4"
GP320	10"	4"



Material: SUJ-2

Hardness: 60+/-2RC

G Nominal: 3/4"
H Nominal: 1"

G Tolerance	H Tolerance
0.7503" / 0.7510"	1.0009" / 1.0016"

G Nominal: 3/4"
H Nominal: 1"

Product Code	L
GB34	5/8"
GB03	7/8"
GB02	1 1/4"
GB35	1 3/8"
GB04	1 1/2"
GB05	1 1/2"
GB31	1 7/8"
GB32	2 1/8"
GB33	2 3/8"
GB36	2 5/8"

G Nominal: 1/2"
H Nominal: 5/8"

G Tolerance	H Tolerance
0.5002" / 0.5007"	0.6264" / 0.6257"

G Nominal: 1/2"
H Nominal: 5/8"

Product Code	L
GB40	7/8"
GB41	1 1/8"

G Nominal: 5/8"
H Nominal: 7/8"

G Tolerance	H Tolerance
0.6250" / 0.6257"	0.8758" / 0.8763"

G Nominal: 5/8"
H Nominal: 7/8"

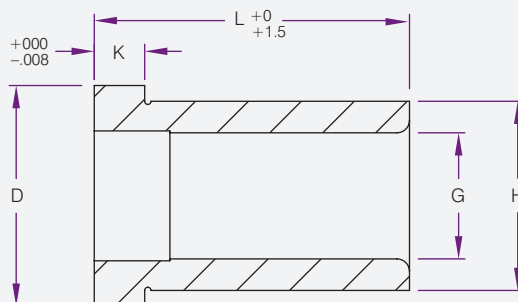
Product Code	L
GB24	3/8"
GB25	7/8"
GB26	1 3/8"
GB27	1 7/8"

G Nominal: 7/8"
H Nominal: 1 1/4"

G Tolerance	H Tolerance
0.8753" / 0.8761"	1.251" / 1.252"

G Nominal: 7/8"
H Nominal: 1 1/4"

Product Code	L
GB71	7/8"
GB72	1 3/8"
GB73	1 7/8"
GB74	2 1/8"
GB75	2 3/8"
GB76	2 7/8"



Material: SUJ-2
Hardness: 60+/-2RC

G Nominal: 1 1/4" H Nominal: 1 3/4"	
G Tolerance	H Tolerance
1.2503" / 1.2513"	1.751" / 1.752"

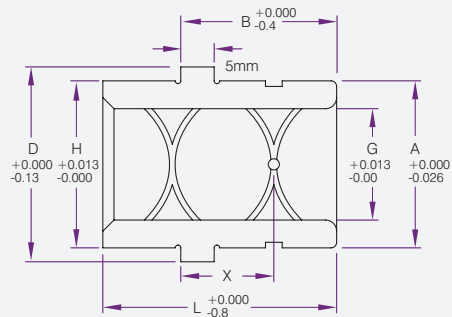
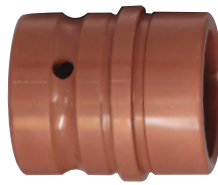
G Nominal: 1 1/4" H Nominal: 1 3/4"	
Product Code	L
GB20	7/8"
GB21	1 3/8"
GB22	1 7/8"
GB19	2 5/8"
GB18	2 7/8"
GB15	3 3/8"
GB23	3 5/8"
GB14	3 7/8"
GB17	4 3/8"
GB16	4 3/4"

G Nominal: 1" H Nominal: 1 3/8"	
G Tolerance	H Tolerance
1.0003" / 1.0012"	1.376" / 1.377"

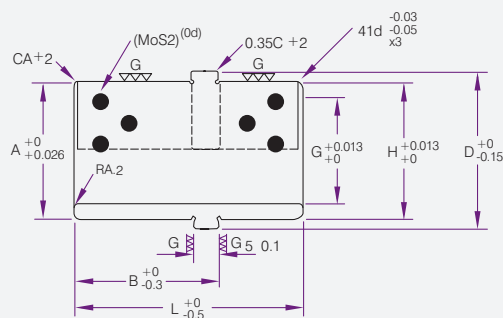
G Nominal: 1" H Nominal: 1 3/8"	
Product Code	L
GB44	7/8"
GB07	1 1/8"
GB45	1 3/8"
GB06	1 1/2"
GB09	1 7/8"
GB10	2 1/4"
GB11	2 3/8"
GB12	2 1/2"
GB08	2 7/8"
GB13	3 1/2"

G Nominal: 1 1/2" H Nominal: 2"	
G Tolerance	H Tolerance
1.5014" / 1.5003"	2.001" / 2.002"

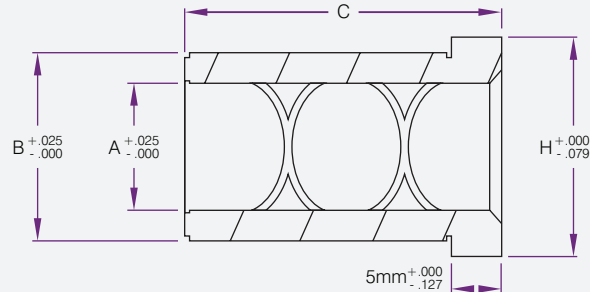
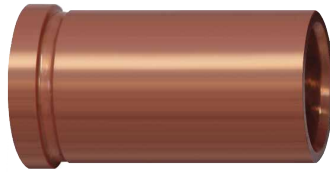
G Nominal: 1 1/2" H Nominal: 2"	
Product Code	L
GB100	3 3/4"



Product Code	G	H	A	D	L	B	X
EJM20	20mm	26mm	26mm	28mm	37mm	25mm	15mm
EJM25	25mm	32mm	32mm	35mm	45mm	29mm	16mm
EJM30	30mm	38mm	38mm	41mm	45mm	29mm	16mm

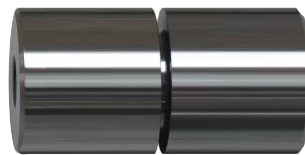


Product Code	G	H	A	D	L	B	RA	CA	(od)
EGM20	20	26	26	28	37	25	1.25	0.5	4
EGM25	25	32	32	35	45	29	1.5	0.6	5
EGM30	30	38	38	41	45	29	2.0	0.7	5

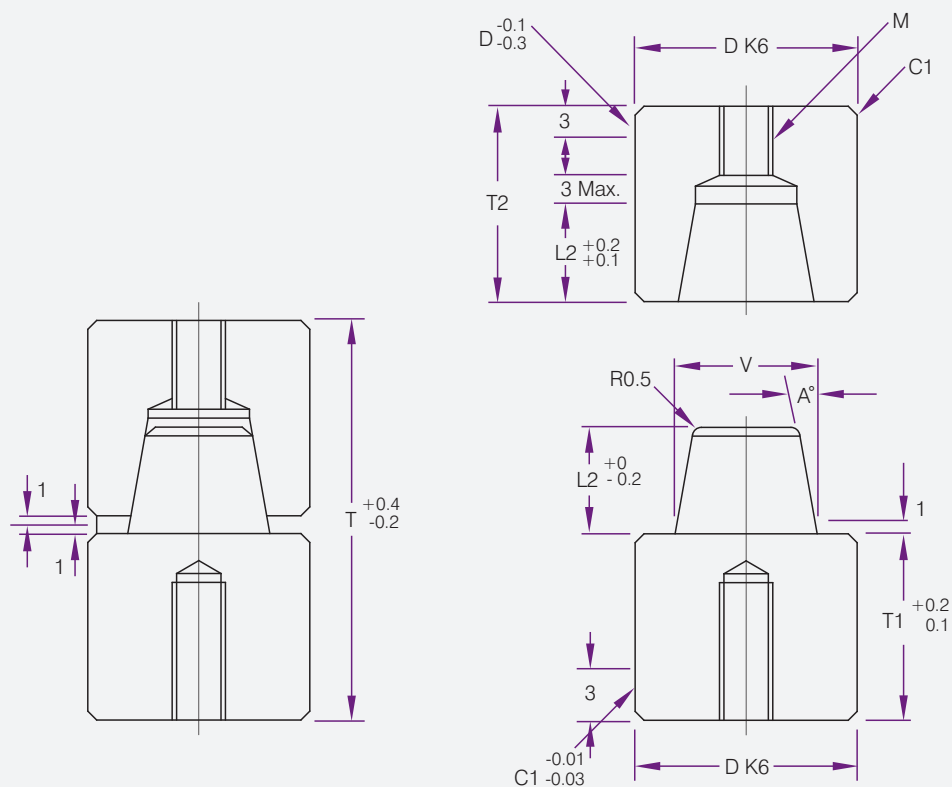


Product Code	A	C	B	H
LBBM2025	20	25	26	28
LBBM2030	20	30	26	28
LBBM2040	20	40	26	28
LBBM2050	20	50	26	28
LBBM2065	20	65	26	28
LBBM2080	20	80	26	28
LBBM20100	20	100	26	28
LBBM20120	20	120	26	28
LBBM2525	25	25	32	35
LBBM2530	25	30	32	35
LBBM2540	25	40	32	35
LBBM2550	25	50	32	35
LBBM2565	25	65	32	35
LBBM2580	25	80	32	35
LBBM25100	25	100	32	35
LBBM25120	25	120	32	35
LBBM25140	25	140	32	35
LBBM25150	25	150	32	35
LBBM3025	30	25	38	41
LBBM3030	30	30	38	41
LBBM3040	30	40	38	41
LBBM3050	30	50	38	41
LBBM3065	30	65	38	41
LBBM3080	30	80	38	41
LBBM30100	30	100	38	41
LBBM30120	30	120	38	41
LBBM30140	30	140	38	41
LBBM30150	30	150	38	41

Product Code	A	C	B	H
LBBM4025	40	25	50	53
LBBM4030	40	30	50	53
LBBM4040	40	40	50	53
LBBM4050	40	50	50	53
LBBM4065	40	65	50	53
LBBM4080	40	80	50	53
LBBM40100	40	100	50	53
LBBM40120	40	120	50	53
LBBM40140	40	140	50	53
LBBM40150	40	150	50	53
LBBM5030	50	30	60	63
LBBM5040	50	40	60	63
LBBM5050	50	50	60	63
LBBM5065	50	65	60	63
LBBM5080	50	80	60	63
LBBM50100	50	100	60	63
LBBM50120	50	120	60	63
LBBM50140	50	140	60	63
LBBM50150	50	150	60	63
LBBM6030	60	30	70	73
LBBM6040	60	40	70	73
LBBM6050	60	50	70	73
LBBM6065	60	65	70	73
LBBM6080	60	80	70	73
LBBM60100	60	100	70	73
LBBM60120	60	120	70	73
LBBM60140	60	140	70	73
LBBM60150	60	150	70	73



Material: SUJ2
HRC: 55-60

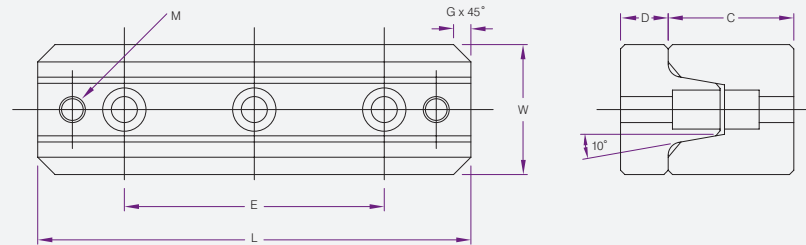


D k6	Tolerance
16	+0.012 +0.001
20	+0.015 +0.002
25	
30	
32	+0.018 +0.002

Product Code	T	T1 . T2	MxL	A	V	L1	L2
TPL16	30	14	M5x10	5°	10	5	6
TPL20	40	19	M6x12	5°	13	8	9
TPL25	50	24	M8x16	5°	16	11	12
TPL30	60	29	M10x20	5°	20	14	15
TPL32	60	29	M10x20	5°	20	14	15



Material: S50C
HRC 52-56

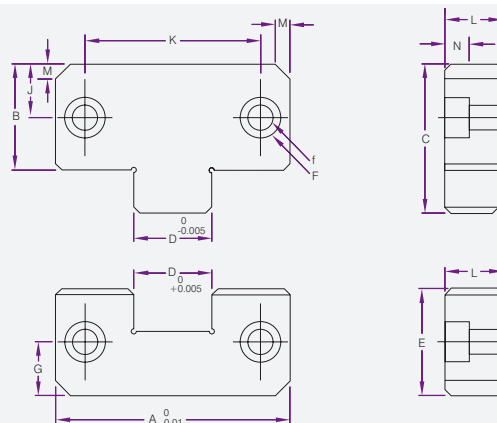


Product Code	E	L	W	D	C	G	M
HBS50	36	50	25	8	17.5	5	M5
HBS100	60	100	30	10	22	4	M6
HBS150	100	150	40	13	25	5	M8

Product Code	E	L	W	D	C	G	M
HBS2	36	50.29	25.36	7.92	17.53	5.08	3/16"-24
HBS4	63.5	101.09	31.71	9.53	22.1	5.08	1/4"-20
HBS6	101.6	151.89	38.06	12.7	25.4	5.08	3/8"-16

Economy Side Locks

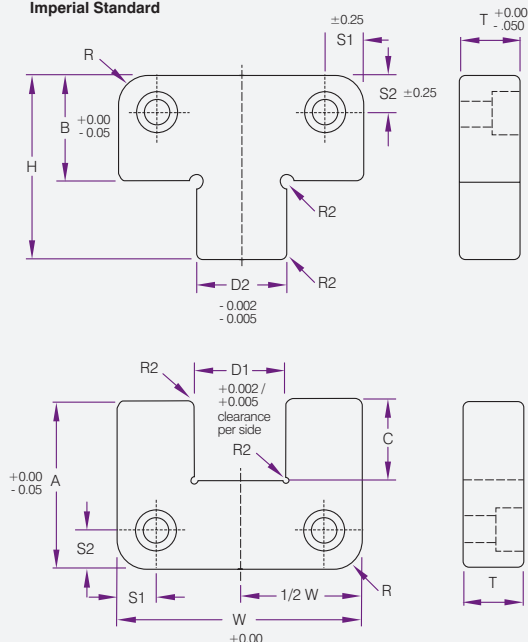
ALIGNMENT



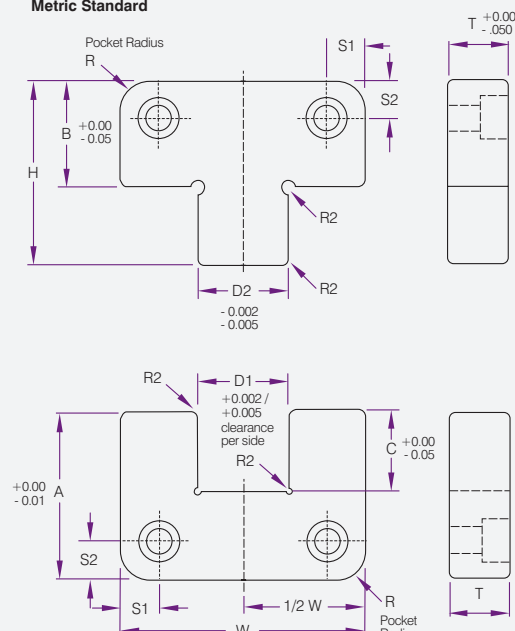
Product Code	A	B	C	D	E	F	f	G	J	K	L	M	N
GPL038	38	22	30	12	22	10.5	6.5	7	7	22	13	5	8
GPL050	50	21.5	30	17	21.5	10.5	6.5	11	11	34	16	5	8
GPL075	75	36	50	25	36	16.5	10.5	18	18	50	19	8	12
GPL100	100	45	65	35	45	16.5	10.5	22	22	70	19	10	12
GPL125	125	45	65	45	45	16.5	10.5	22	22	84	25	10	12



**Coated Side Locks:
Imperial Standard**



**Coated Side Locks:
Metric Standard**



Male: YK30
54~56HRC
Black Oxide Finish

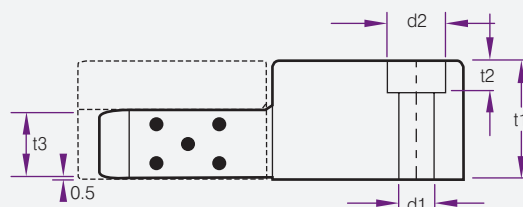
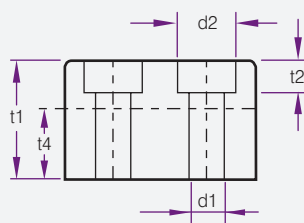
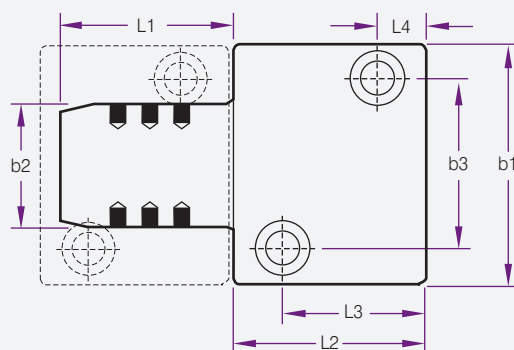
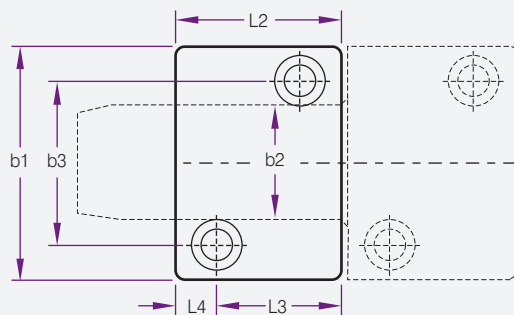
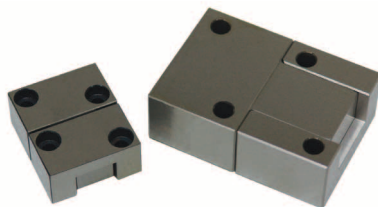
Female: SKD11(D2)
58~62HRC
Titanium Nitride Coated

Imperial Standard

Product Code	T	W	A	B	C	D1	D2	H	R	R2	S1	S2	SHCS
CSL37	0.375	1.0000	1.125	0.875	0.53	0.5000	0.4999	1.37	3/16	0.06	0.500	0.250	10-32 x 1/2"
CSL49	0.490	1.2500	1.125	0.875	0.66	0.5000	0.4999	1.50	3/16	0.06	0.750	0.250	8-32 x 5/8"
CSL50C	0.500	1.5000	0.875	0.875	0.56	0.5630	0.5629	1.40	3/16	0.06	1.000	0.250	8-32 x 5/8"
CSL50	0.500	2.0000	1.375	0.875	0.66	0.7500	0.7499	1.50	3/16	0.06	1.376	0.312	10-32 x 5/8"
CSL75	0.750	3.0000	1.875	0.750	1.13	1.2500	1.2499	1.96	1/4	0.12	2.250	0.375	1/4-20 x 3/4"
CSL100	1.000	4.0000	2.375	1.375	1.25	1.5000	1.4999	2.59	1/2	0.12	3.000	0.500	3/8-16 x 1"
CSL125	1.250	5.0000	2.875	1.375	1.63	2.0000	1.9999	2.96	1/2	0.12	3.750	0.625	1/2-13 x 1 1/4"
CSL150	1.500	6.0000	2.875	1.375	1.75	2.5000	2.4999	3.09	1/2	0.12	4.750	0.625	1/2-13 x 1 1/2"

Metric Standard

Product Code	T	W	A	B	C	D1	D2	H	R	R2	S1	S2	SHCS
CSLM050	16	50	21.5	21.5	12	17	16.995	32.5	5	1.5	8	11	M6-1.0 x 18
CSLM075	19	75	36	36	17	25	24.995	52.5	5	3	12.5	18	M10-1.5 x 20
CSLM100	19	100	45	45	23	35	34.995	67.2	5	3	70	22	M10-1.5 x 20
CSLM125	25	125	45	45	23	35	34.995	67.2	5	3	20.5	22	M10-1.5 x 25



Product Code	b2 g5	L1	t4	t3	t2	t1	d2	d1	L4	L3	L2 ^{-0.5}	B3	B1
HSBR1620	16	20	12	11	6.8	20	11	6.6	7	15	22	26	40
HSBR1640	16	40	12	11	6.8	20	11	6.6	7	15	22	26	40
HSBR2025	20	25	14	13	6.8	22	11	6.6	7	19	27	31	45
HSBR2050	20	50	14	13	6.8	22	11	6.6	7	19	27	31	45
HSBR2532	25	32	15	14	6.8	25	11	6.6	9	27	36	35	50
HSBR2563	25	63	15	14	6.8	25	11	6.6	9	27	36	35	50
HSBR3240	32	40	20	19	9.0	32	15	9.0	11	35	46	45	63
HSBR3280	32	80	20	19	9.0	32	15	9.0	11	35	46	45	63
HSBR4050	40	50	23	22	11.0	36	18	11.0	15	40	56	60	85
HSBR40100	40	100	23	22	11.0	36	18	11.0	15	40	56	60	85
HSBR5056	50	56	25	24	13.0	40	20	14.0	18	48	66	74	100
HSBR50112	50	112	25	24	13.0	40	20	14.0	18	48	66	74	100
HSBR125140	125	140	63	62	21.0	112	32	22.0	25	135	150	110	160



Material: SAE52100

Hardness: 60+2RC

Induction Heat Treated

*Tolerance on the "P" Dimensions is -.5 mm



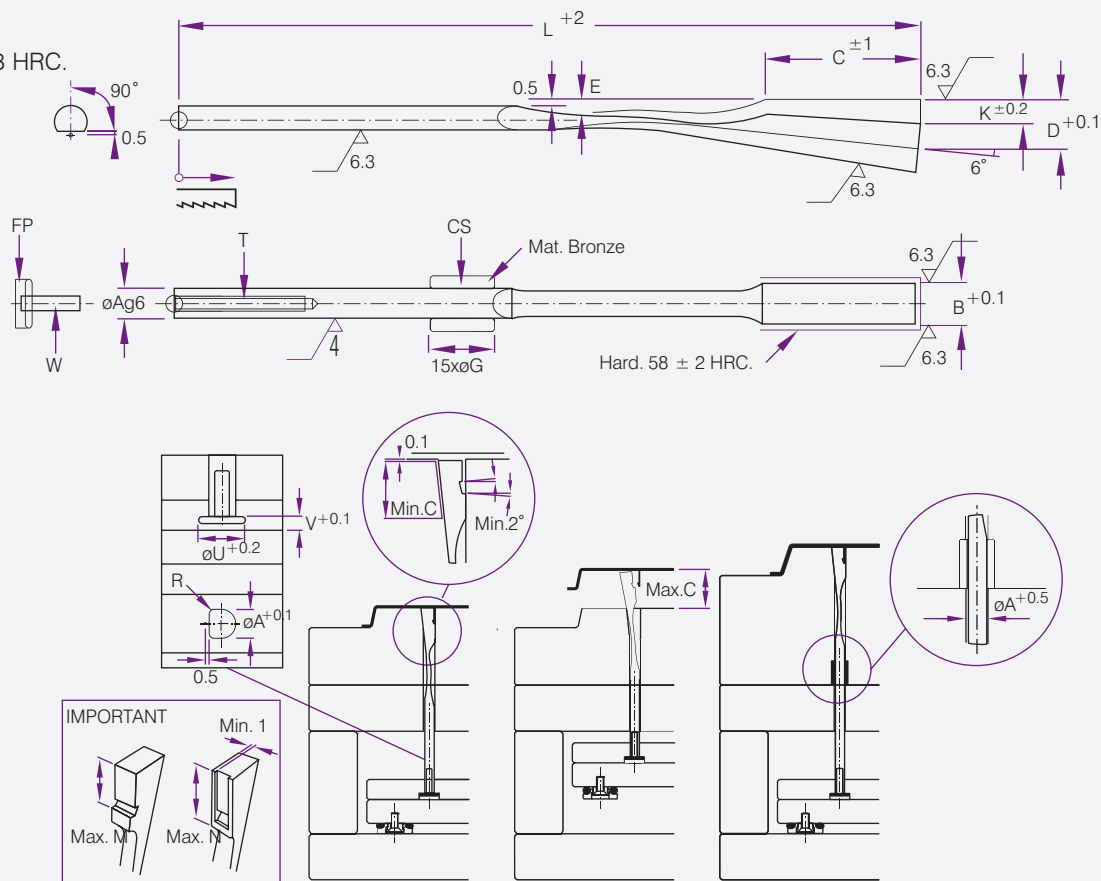
Product Code	P	L	N	T	H	D
MAP12060	12	60	23	10	17	+.012 +.001
MAP12140	12	140	33	10	17	
MAP16080	16	80	28	12	21	
MAP16100	16	100	28	12	21	
MAP16120	16	120	28	12	21	
MAP16140	16	140	33	12	21	
MAP16160	16	160	33	12	21	
MAP16180	16	180	38	12	21	
MAP20080	20	80	32	15	25	
MAP20100	20	100	32	15	25	
MAP20120	20	120	32	15	25	
MAP20140	20	140	37	15	25	
MAP20160	20	160	37	15	25	
MAP20200	20	200	42	15	25	
MAP20220	20	220	42	15	25	
MAP25100	25	100	47	15	30	
MAP25120	25	120	47	15	30	
MAP25140	25	140	47	15	30	
MAP25160	25	160	52	15	30	
MAP25180	25	180	52	15	30	
MAP25200	25	200	52	15	30	
MAP25260	25	260	57	15	30	
MAP25300	25	300	57	15	30	
MAP30160	30	160	50	20	35	
MAP30180	30	180	50	20	35	
MAP30200	30	200	50	20	35	
MAP30260	30	260	60	20	35	
MAP30280	30	280	60	20	35	
MAP30300	30	300	60	20	35	



Mat.:1.8159

Hardened: 45 ± 3 HRC.

Patented System



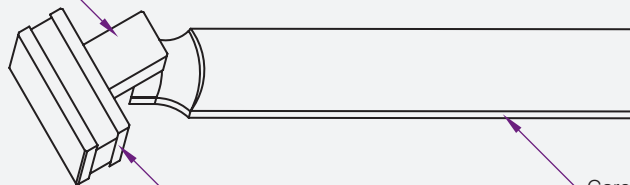
Minimum space required for installation, only needs the space of an ejector. No milling, grinding or hardening other than the machining of detail needed. All machining is made 90° to the parting line. No need for complex mechanical systems.

Product Code	A	B	C	D	E	G	K	L	M	N	R	T	U	V	W	CS
PW060622	6	6.2	22	9	3.5	12	3.5	125	16	18	1.25	M4x36	12	5	M4x16 (DIN7991)	
PW060630	6	6.2	30	10	3.5	12	4.5	175	20	26	1.25	M4x36	12	5	M4x16 (DIN7991)	•
PW060822	6	8.2	22	9	3.5	12	3.5	125	16	18	1.25	M4x36	12	5	M4x16 (DIN7991)	
PW060830	6	8.2	30	10	3.5	12	4.5	175	20	26	1.25	M4x36	12	5	M4x16 (DIN7991)	•
PW080825	8	8.2	25	11.5	4.5	12	4.5	140	18	21	2	M5x36	14	6	M5x16 (DIN7984)	
PW081025	8	10.2	25	11.5	4.5	12	4.5	140	18	21	2	M5x36	14	6	M5x16 (DIN7984)	
PW081030	8	10.2	30	11.2	4.5	12	4.5	175	20	26	2	M5x36	14	6	M5x16 (DIN7984)	
PW081225	8	12.2	25	11.5	4.5	12	4.5	140	18	21	2	M5x36	14	6	M5x16 (DIN7984)	
PW081230	8	12.2	30	11.2	4.5	12	4.5	175	20	26	2	M5x36	14	6	M5x16 (DIN7984)	
PW101430	10	14.2	30	13.6	5.5	16	5.5	175	20	26	2.5	M6x36	18	8	M6x16 (DIN7984)	•
PW101630	10	16.2	30	13.6	5.5	16	5.5	175	20	26	2.5	M6x36	18	8	M6x16 (DIN7984)	•
PW101830	10	18.2	30	13.6	5.5	16	5.5	175	20	26	2.5	M6x36	18	8	M6x16 (DIN7984)	•



U-Coupling permits the Core Blade to seat at any angle.

The UniLifter's design eliminates the need for custom configurations with each design.



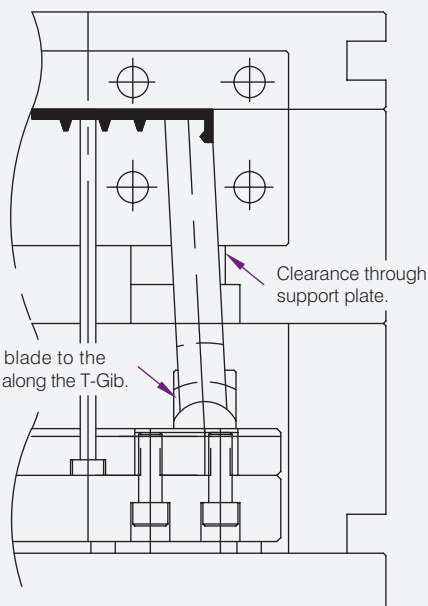
T-Gibs are available in several sizes to accommodate various travels required.

Core Blades are available in a wide range of standard sizes, with specials also available.

Undercut Release System

The Progressive UniLifter system is the most widely used standard product for moulding and releasing undercuts. Smooth performance is attained due to the U-Coupling design, eliminating wear and binding found in other fixed angle lifter designs.

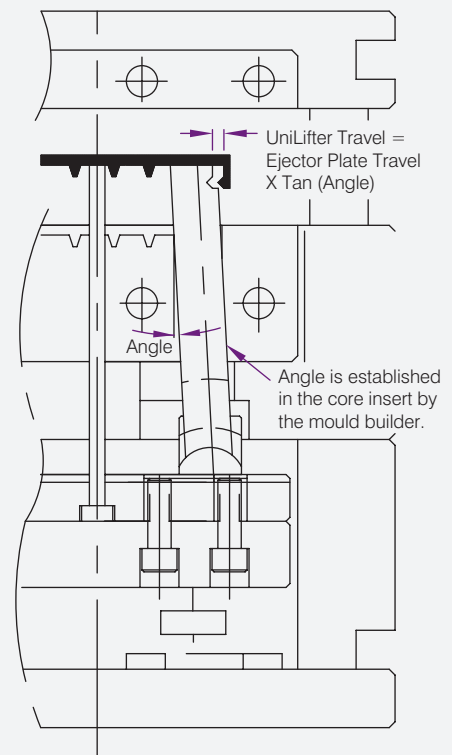
The UniLifter undercut release system incorporates a three piece set: Core Blade, U-Coupling, and T-Gib.



U-Coupling seats the core blade to the correct angle while travelling along the T-Gib.

Clearance through support plate.

mould closed



UniLifter Travel =
Ejector Plate Travel
X Tan (Angle)

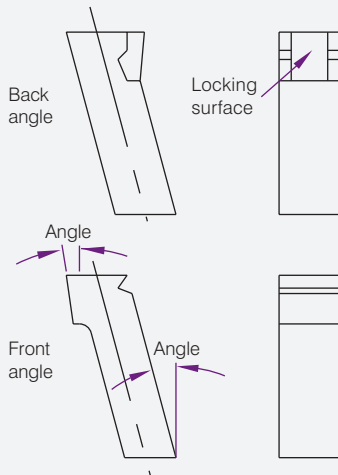
Angle

Angle is established
in the core insert by
the mould builder.

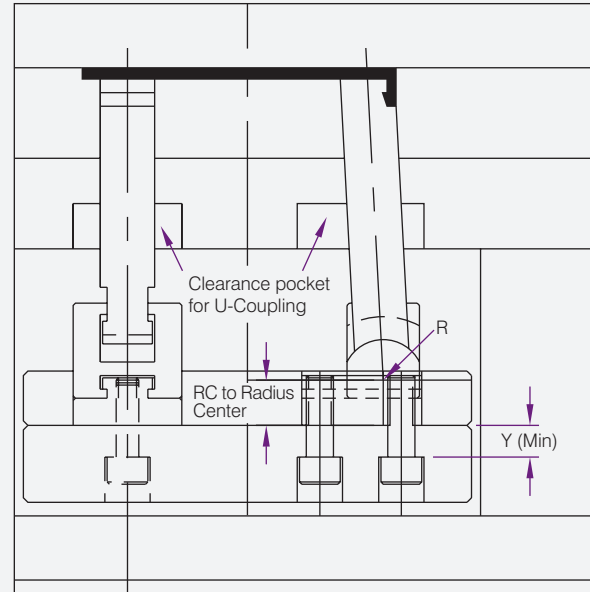
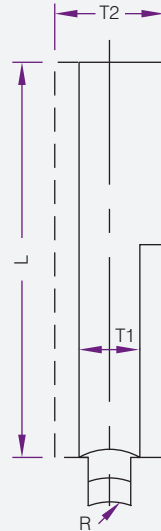
mould open



Locking Angles



Non-Standards



General Information

It is recommended that UniLifters be installed as shown at right, with the T-Gib mounted on the pin plate. The appropriate RC and Y dimensions are shown below. The RC dimensions refer to the distance from the bottom of the pin plate to the Radius Centre, and the Y dimension is the minimum distance needed to prevent interference between the U-Coupling and T-Gib screws.

Angles

Users report best results when the Core Blade is designed between 5° and 10° angles. However, users have also reported success at 15° or more when using guides in the support plate.

Alignment

Guided Ejection is recommended in all designs when using lifters. If less than 1/2 of the Core Blade is bearing in the core insert, lifter guide plates are recommended in the support plate.

Fitting

Recommended clearance for the T and W dimensions is .001 - .0015" total (.025 - .038) where permissible. Fitting stock of .005" per side over nominal is provided on rectangular core blades (i.e. CVS50x100 is T = .510, W = 1.010).

Additional Treatments

Although standard steel Core Blades are approximately 10 Rc above P-20 and 10 Rc below hardened tool steel, additional performance can be obtained by treating after machining is finished. Ion nitriding or a chromium treatment will increase the surface hardness of the H-13 core blades to levels suitable for high production moulds. For solid bronze Core Blades, a cold-process Titanium Nitride Coating will bring the surface hardness into the 75-80 Rc range.

Locking Angles

Locking angles may be designed in to provide locking surface against moulding pressure.

Non-Standards

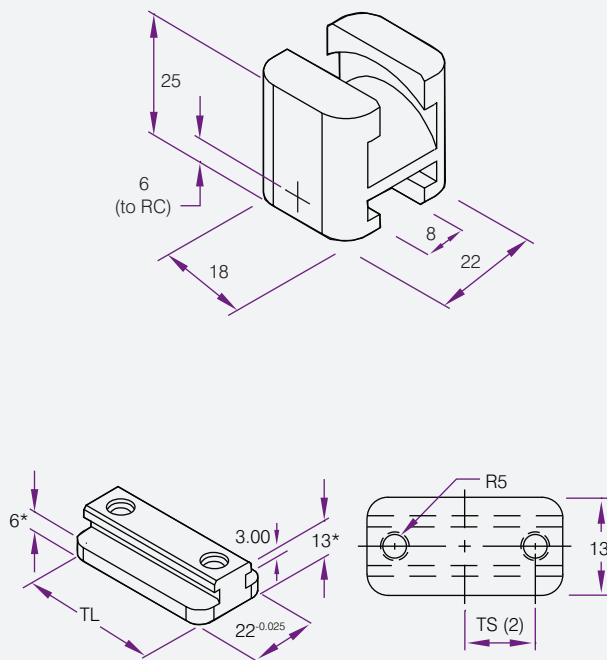
L-Shaped Core Blades may be machined by the mould maker or supplied pre-machined. When machining, it is recommended that the material form the heel area not be removed, and the T1 dimension should be on the centre of the radius. Specials to order.

UniLifter Series	R Radius	RC	Y
MiniLifters	.250	.469	.78
UniLifters	.406	.406	.37
XL Series	.875	.375	.71
Metric Series	10mm	12mm	11mm



A complete Metric UniLifter system includes:

- (1) Core Blade
- (1) U-Coupling
- (1) T-Gib

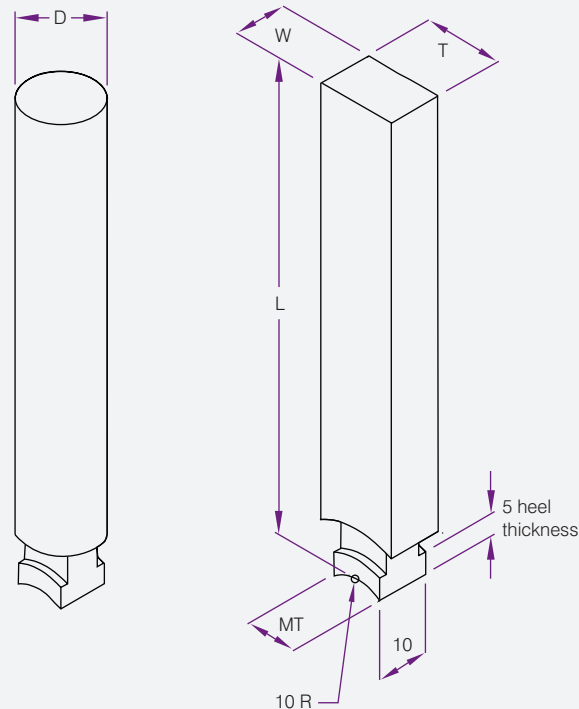


U-Coupling

Material: H13
Hardness: 40-44RC
Surface: 60-65RC

Core Blades

Material: H13
Hardness: 38-42RC



U-Coupling	
Product Code	Description
UCMM22	Metric Universal Coupling

Round Core Blade			
Product Code	D	L	MT
	+ .000 - .025	+2 -0	Min. Thk.
CBMM15DL250	15.00	250	10.0

T-Gib			
Product Code	TL +.00 -.25	TS	Travel Allowed
TGMM10	33.00	10.00	10.00
TGMM30	52.00	15.00	30.00

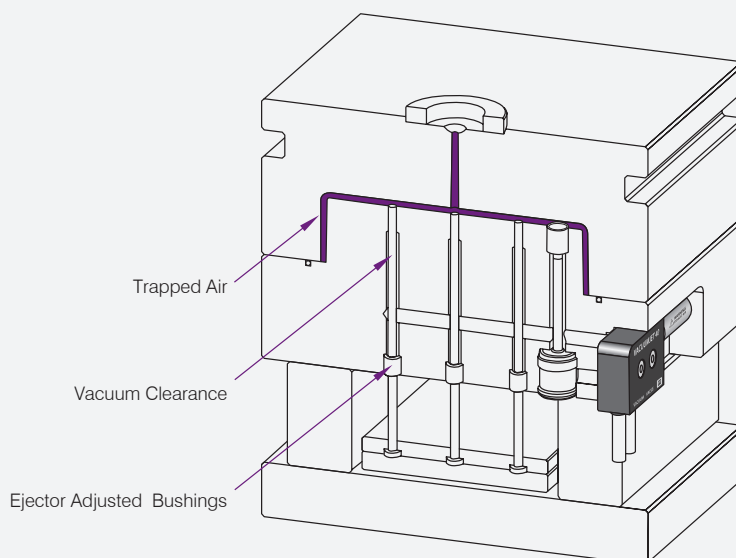
Flat Core Blade				
Product Code	T	W	L	MT
	+ .000 -.025	+ .000 -.025	+2 -0	Min. Thk.
CBMM10X10L250	10.25	10.25	250	10.0
CBMM15X15L250	15.25	15.25	250	15.0
CBMM20X20L250	20.25	20.25	400	15.0

M-5x20MM long SHCS included.

* Fitting stock provided of +.25/-.00 on the bottom of the T-Gibs for height adjustment.

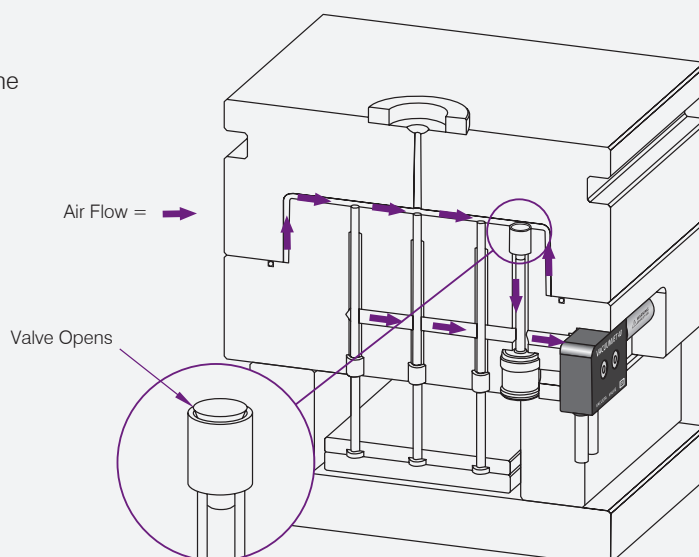
Mould closed

With the mould closed, air is trapped inside the cavity. If injection starts, the air will be cornered, heated and compressed by the plastic, producing poor quality plastic parts. We have to create a Vacuum!



Creating vacuum in the cavity

To optimize the injection process we have to take out the air from the cavity. There are several methods to accomplish this, but in all of them it is the injected plastic that pushes out the air. With VACUUMJET, when it is activated prior to the injection, a valve is opened and vacuums the air, therefore, leaving the cavity prepared for the injection.

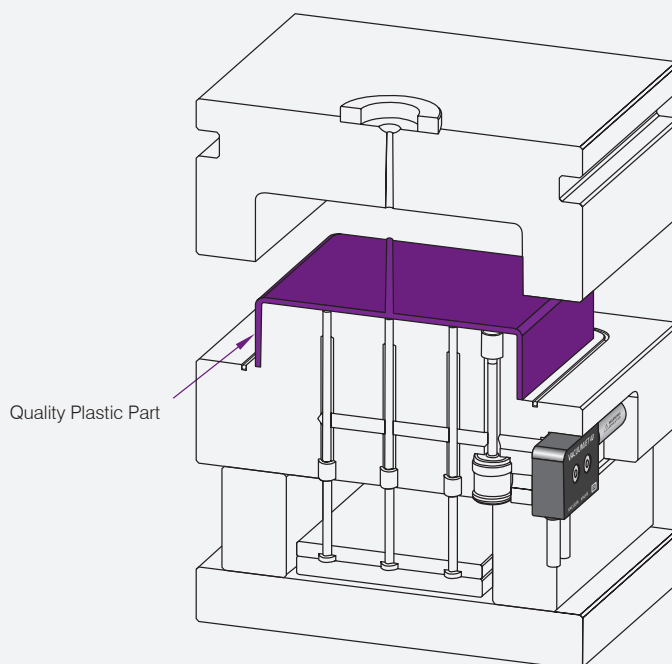


Injection starts

The Vacuumjet continues sucking the air during all the injection process, to guarantee the maximum ease of the plastics fluidity, therefore reducing the pressure needed.

Ejection process

When the injection is finished, the Vacuumjet stops, and as with all the moulds, the plastic is cooled and the part is ejected...but with the Vacuumjet system, we obtain greater quality plastic part, with at least the same injection, if not faster, and without altering the optimal injection parameters.

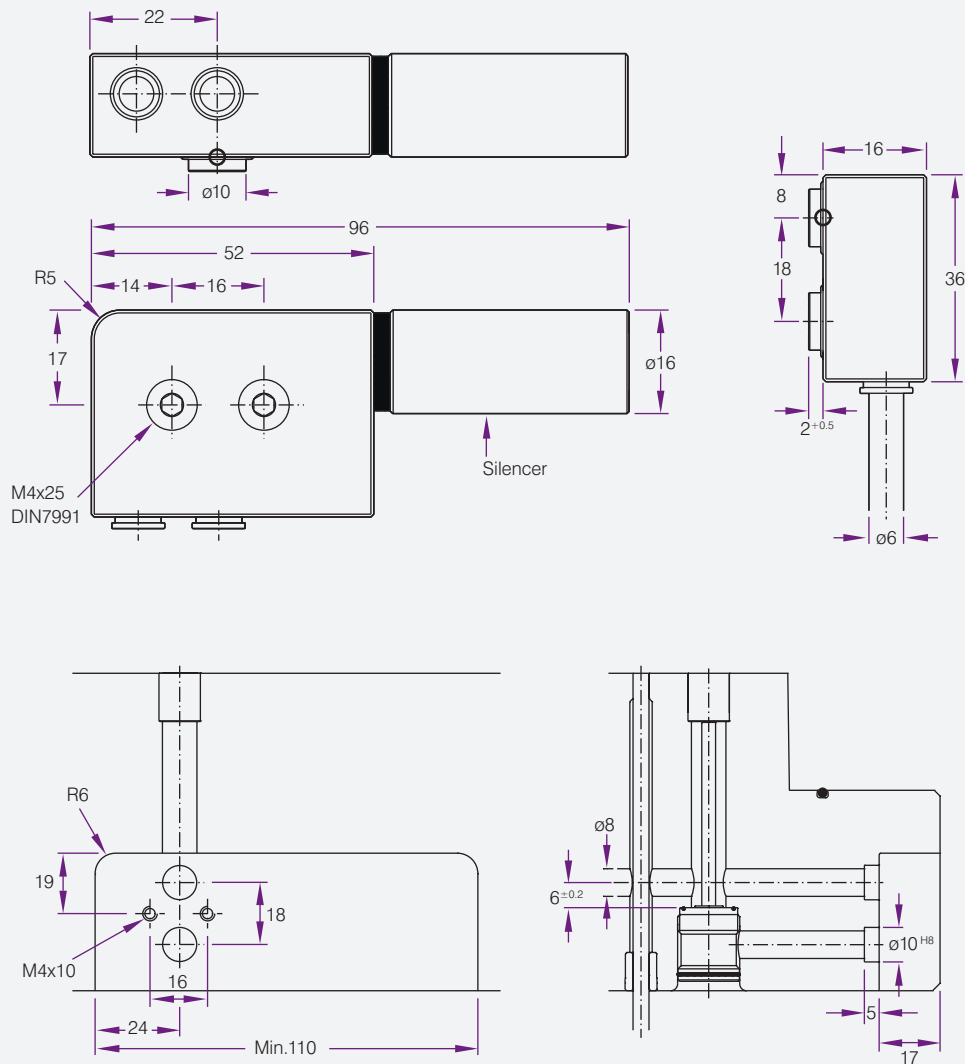




Material: Aluminium

Maximum working temperature: 80°C

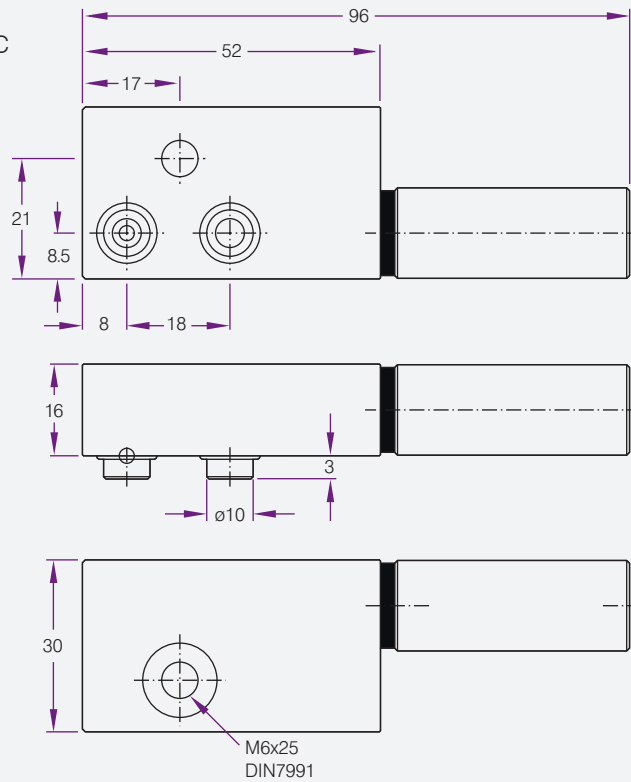
Patented System



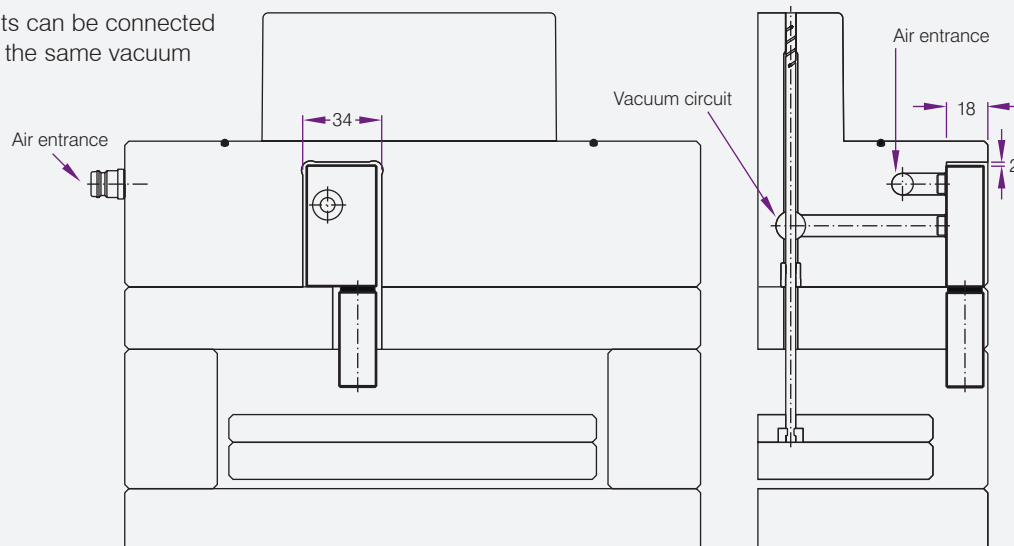
Product Code	Description	Supply Pressure	Max. Vacuum	Max. Flow	Consumption	Recom. W
VJ.200000	Vacuumjet 20L	5-6 Bar	-900 mbar	30nl./Min.	20nl./Min.	W.086414
VJ.400000	Vacuumjet 40L	5-6 Bar	-900 mbar	50nl./Min.	40nl./Min.	W.121014
VJ.600000	Vacuumjet 60L	5-6 Bar	-900 mbar	75nl./Min.	60nl./Min.	W.161416



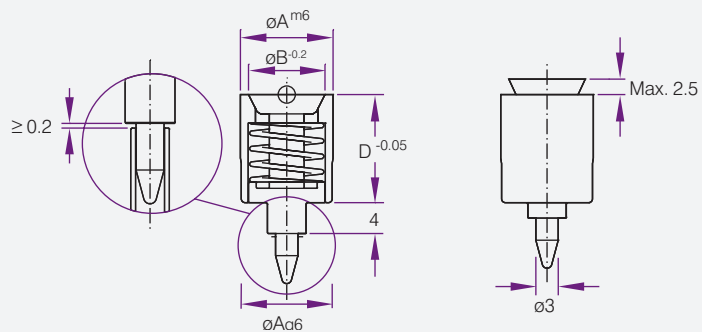
Material: Aluminium
Max. working temperature: 80°C
Patented System



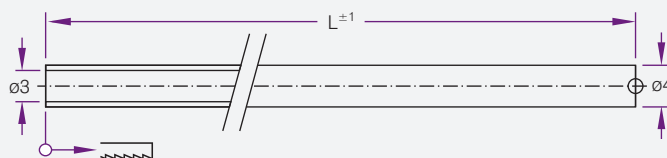
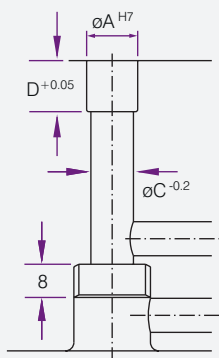
Several units can be connected together in the same vacuum circuit.



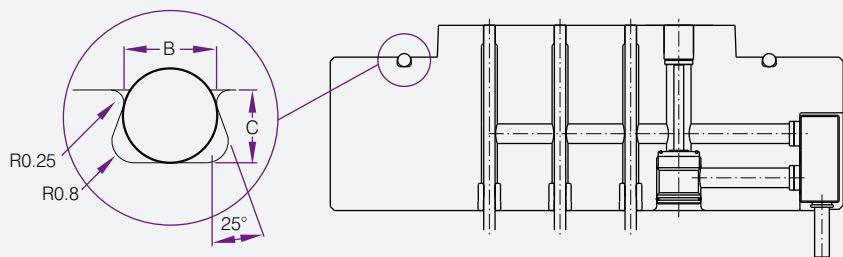
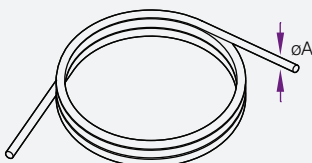
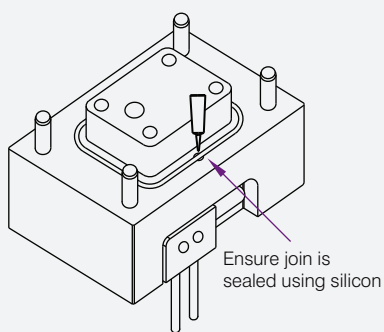
Product Code	Type
VG523016	60L



Product Code	A	B	C	D
VV.086414	8	6.7	7.5	14
VV.121014	12	9.8	10	14
VV.161416	16	14	10	16



Product Code	L
VT.043134	134
VT.043209	209
VT.043284	284



Product Code	L	M	C	mm
JV.030200	3	2.7	2.7	2.000
JV.050200	5	4.6	4.2	2.000



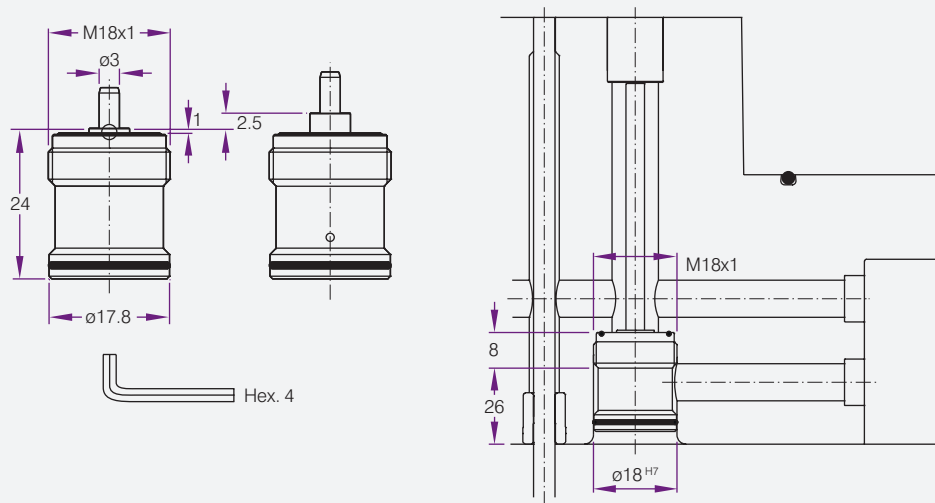
Material: Brass

Maximum working temperature: 150°C

Patented System

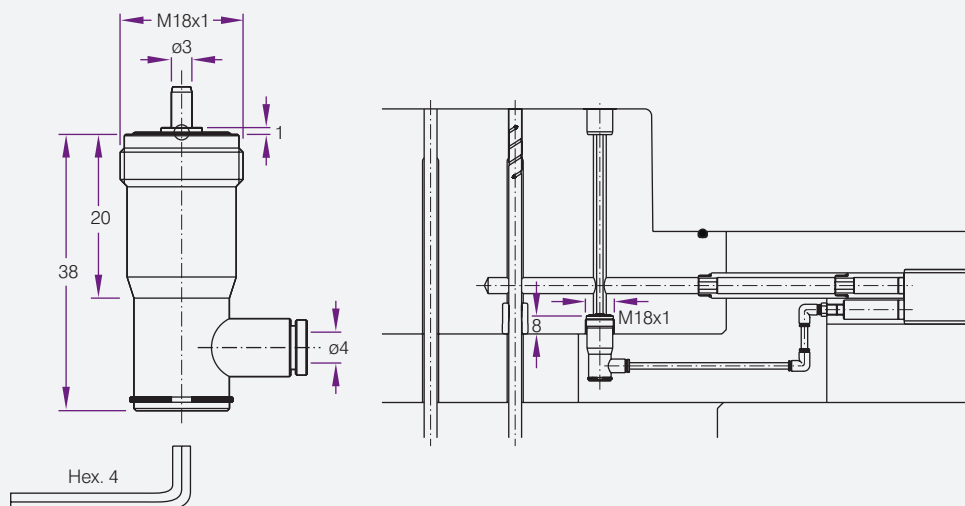
PT1

Directly connected to the Vacuumjet unit through a circuit in the plate.

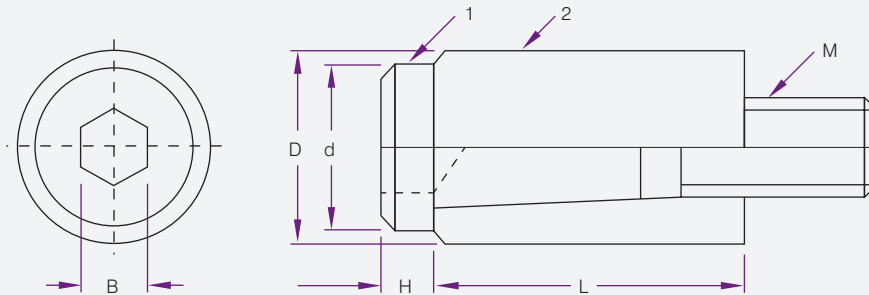


PT2

Can be connected through flexible tubes to the Vacuumjet unit, simplifying the assembly in difficult places.

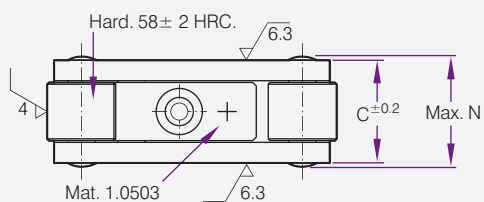
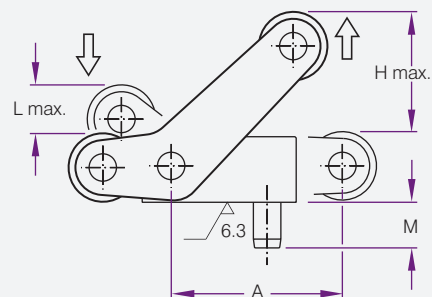
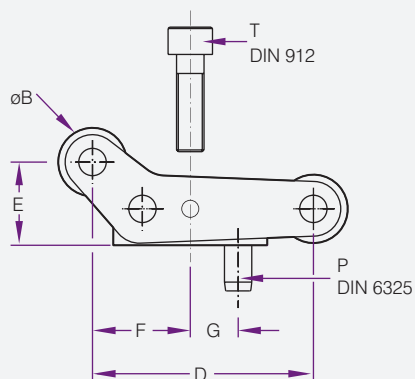


Product Code	Type
PT.182403	PT1
PT.183803	PT2

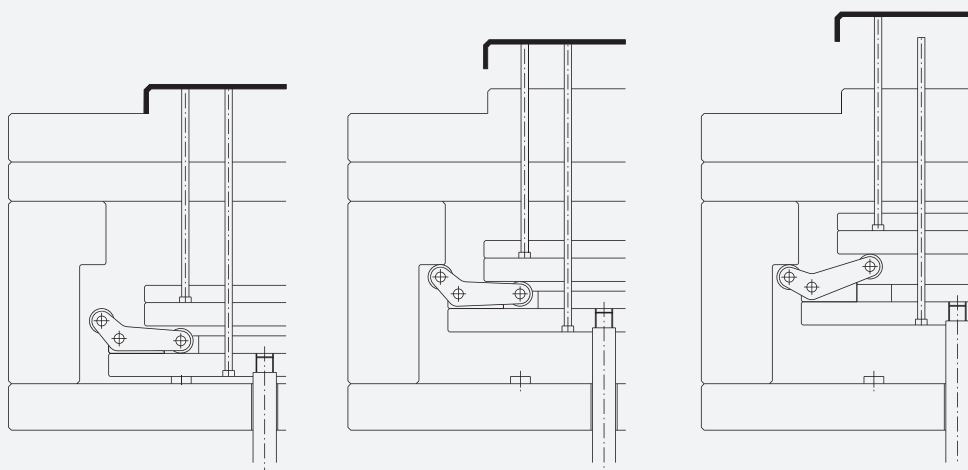


1. Use sloping screw to adjust mould plate and parting locks, then turn 90 degrees.
2. Easy to assemble and disassemble, and cost efficient.
3. Can also be installed into small, medium size, and 2-sectional injecting metal pipes, or can be installed on sliding bases.
4. Mould weight < 100kg, using 4 pcs of 12 Ø
Mould weight < 500kg, using 4 pcs of 16 Ø
Mould weight < 1,000kg, using 4 pcs of 20 Ø
Mould weight > 1,000kg using at least 6 pcs.
5. Insert parting locks into die mould about 3cm, then using H7 reamer to process mould hole within +0.1mm range.
6. Do not add any oil on parting locks, doing so will reduce the friction.

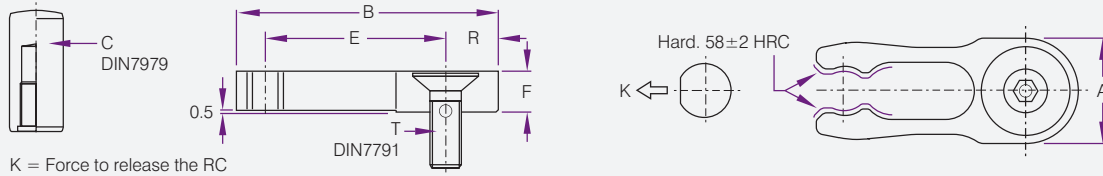
Product Code	D	d	H	L	M	B
GPLA10	10	8.5	3	18	M5	4
GPLA12	12	11	3.5	20	M6	5
GPLA13	13	11	3.5	20	M6	5
GPLA16	16	14	4	25	M8	6
GPLA20	20	16	5	30	M10	8



Simple mechanical double ejection system.
Minimum space required for installation. Avoids
complex systems like others currently available
in the market. Offers a standard solution to the
molder.



Product Code	A	B	C	D	E	F	G	H max.	L max.	M	N	P	T	Max. Force
EP200813	20	8	13.2	25.8	9.4	11.4	6	13.6	5.5	5	15	Ø2.5 x10	M3x12	75 kg
EP251016	25	10	16	32.3	11.8	14.3	7	17	6.8	6	18.5	Ø3 x12	M4x16	125 kg
EP371522	37.5	15	22	48.5	17.7	21.5	10.5	25.5	10.2	8	25	Ø4 x16	M6x25	250 kg
EP502030	50	20	30	64.6	23.6	28.6	14	34	13.6	10	34	Ø5 x20	M8x30	500 kg



Slide Retainers

Mat.: 1.8159

Hardened: 45 ± 3HRC

Patented System

Less machining for installation compared to similar products on the market.

Minimum space required for installation. Reduces costs in tool downtime.

Offers a standard solution to the moulder.

Product Code	A	B	C	E	F	G	H	K	R	T
RC.123006	12	30	6x20	21	5	4	16	5 Kg	6	M5x16
RC.164008	16	40	8x20	28	6	5	15	7 Kg	8	M6x25
RC.205010	20	50	10x24	34	8	6	17	14 Kg	10	M8x30
RC.246012	24	60	12x32	42	10	7	23	21 Kg	12	M10x40
RC.328012	32	80	16x40	56	12	9	27	28 Kg	16	M12x50
RC.328016	32	80	16x40	56	16	9	25	38 Kg	16	M12x50

MOULD ACTIONS

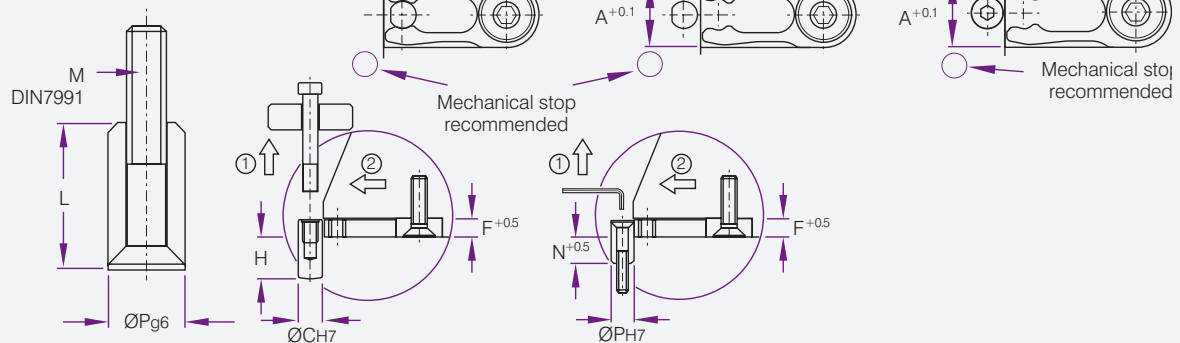
Optional Dowel Pin For Slide Retainer



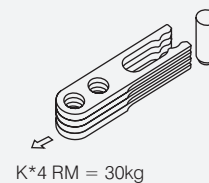
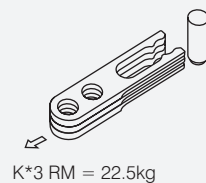
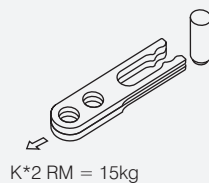
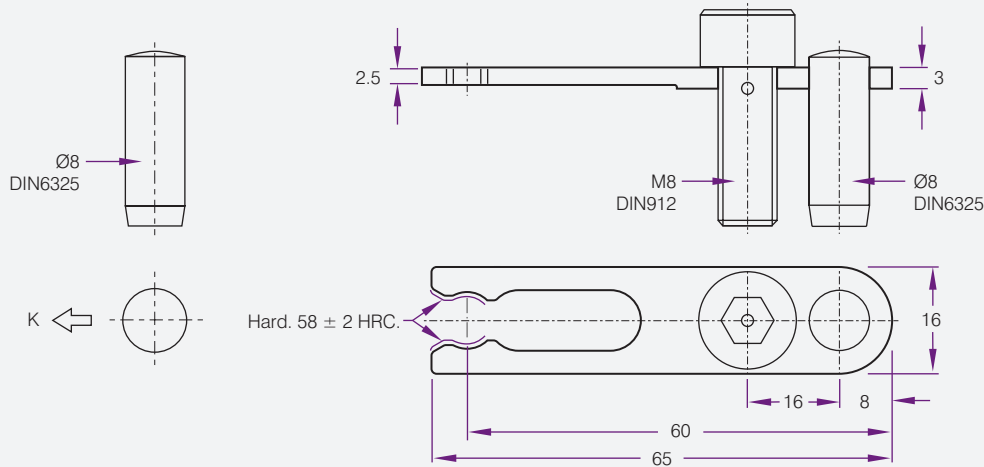
Optional Dowel Pins

Mat.: 1.3505

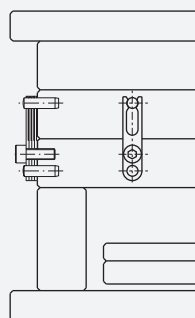
Hardened: 60 ± 2HRC



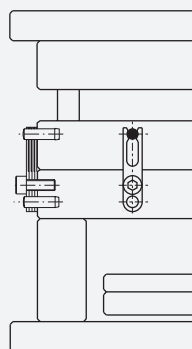
Product Code	L	M	N	P
PO.120320	12	M3x20	7.5	6
PO.150425	15	M4x25	10	8
PO.200530	20	M5x30	13	10
PO.250635	25	M6x35	16	12
PO.340850	34	M8x50	23	16



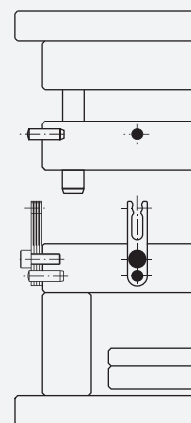
IMPORTANT
K = Approximate resistance value that
can be obtained by grouping clips



Closed Mould



1st Opening



2nd Opening

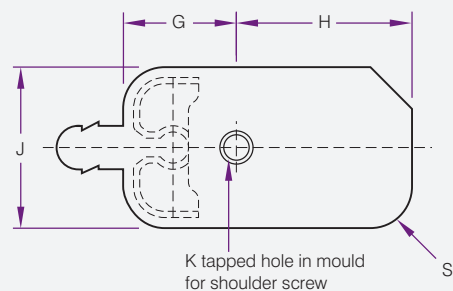
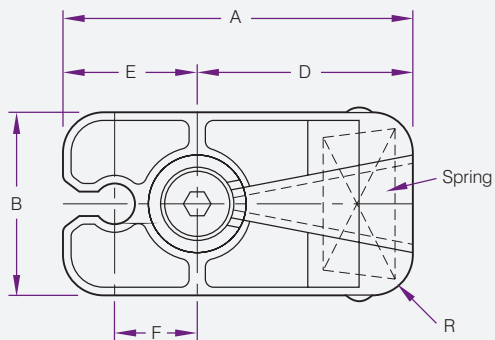
Mat.: 1.8159

Hardened: 45 ± 3HRC

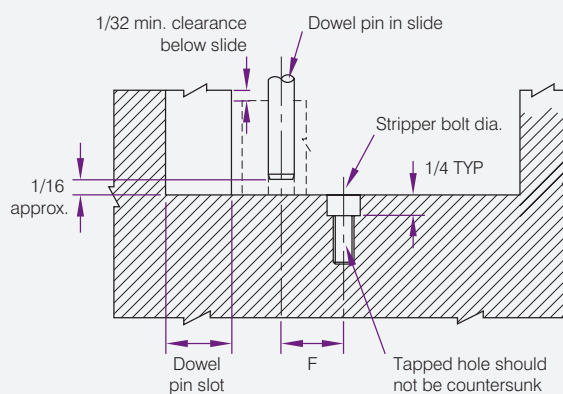
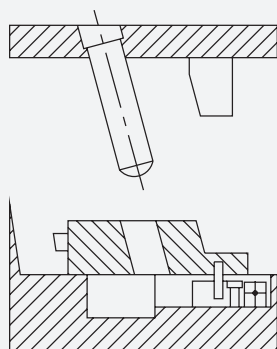
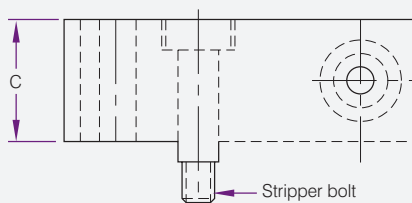
Patented System

No pocket machining required as needed with other similar products on the market. Minimum space required for installation. Reduces costs compared to conventional mechanisms. Offers a standard solution to the molders.

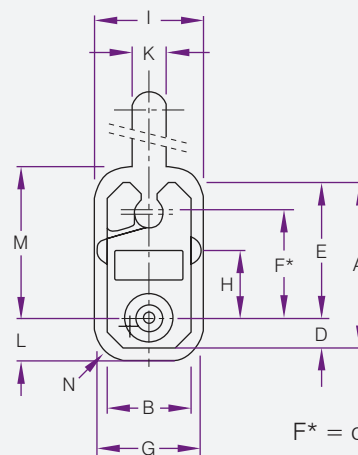
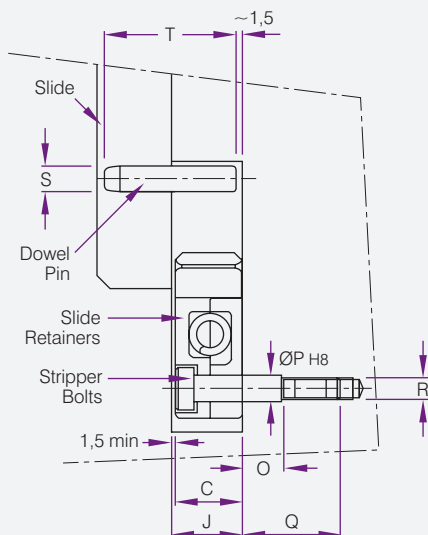
Product Code	K
RM.651608	7.5kg



Typical Slide Retainer Application



Dimensions							R	Stop	Stop	Max Slide					
Product Code	A	B	C	D	E	F	Rad	Pin	Pin L	Weight	G	H	J	K	S
MRT10M	38	19	16	22	16	9.15	5	6	30	10kg	19	26	25	5x8 .8x10	8
MRT20M	54	32	20	33	21	12.70	6	8	40	20kg	24	36	38	6x1 .0x12	10
MRT40M	86	45	30	53	33	20.30	10	10	60	40kg	36	56	51	8x1 .25x14	13

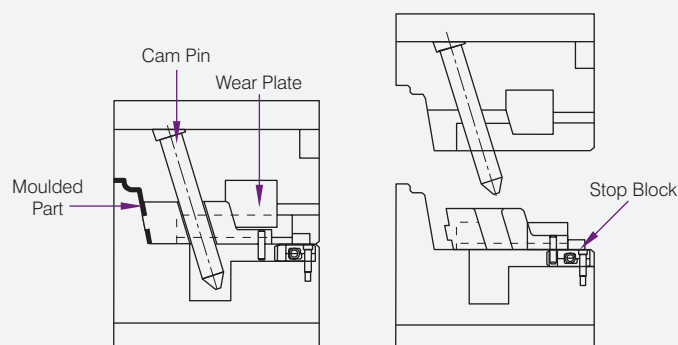


The slide retainers are mechanical components that allow the stop and the perfect positioning of mechanical trolley used to free the undercut.

a^* = max. slide weight

b^* = stripper bolt

c^* = max. opening force in Nm

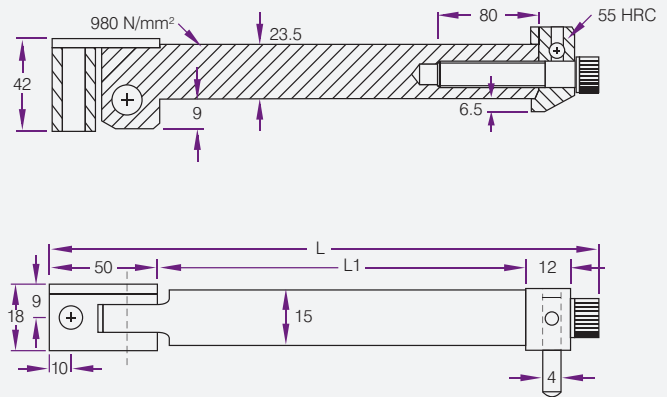
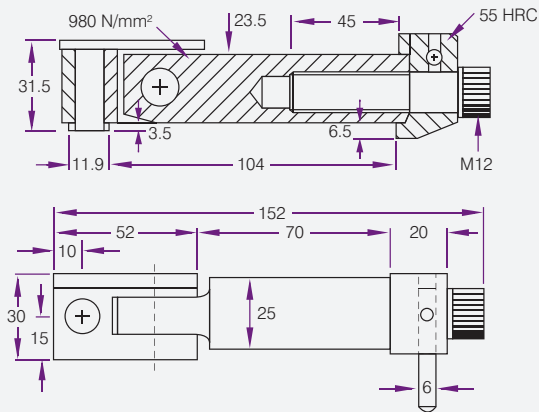


Product Code	Cam Slide									a^*	b^*	
	A	B	C	D	E	F	G	H	I	Newton	Ref.	c^*
OESR0001	38	19	16	7	31,5	24,89	24,0	15,5	25,5	150	SB5x20	10
OESR0002	54	32	20	11	43,0	34,93	36,5	22,5	38,0	250	SB6x25	15
OESR0003	86	45	30	19	67,0	53,98	49,5	40,0	51,0	500	SB8x40	20

Product Code	Retainer seat in mould									Dowel Pin	
	J min	K	L	M	N	O	P	Q	R	S	T
OESR0001	17,5	8	10,0	34,5	8	8,5	6	20	M5	6	32
OESR0002	21,5	10	14,5	46,0	10	10,5	8	25	M6	8	40
OESR0003	31,5	12	22,5	70,0	12	17,0	10	35	M8	10	60



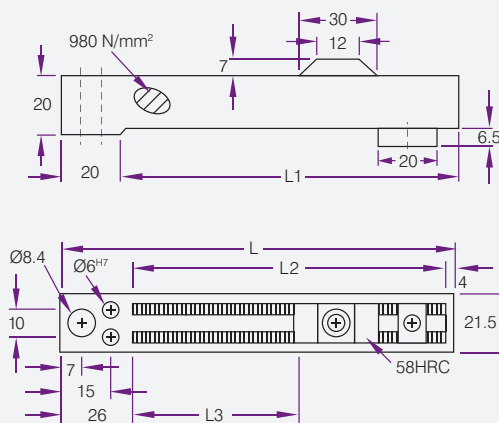
Latch



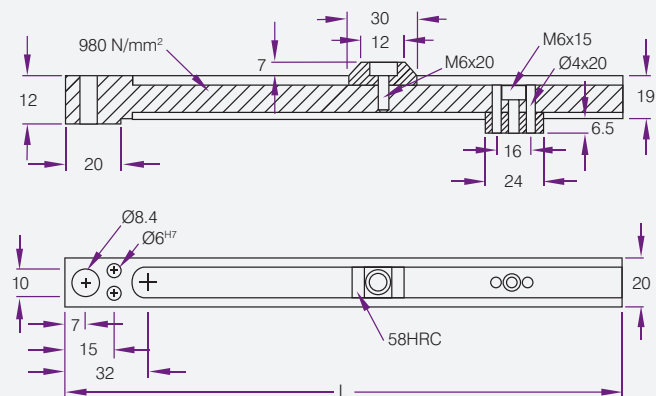
Type	Series
1	ZH 90/1

Type	Series	L	L1
2	ZH 90/2	252	170
3	ZH 90/3	302	220
4	ZH 90/4	352	270
1 BIS	ZH 90/1 BIS	172	90

Adjustable Cam



Fixed Cam

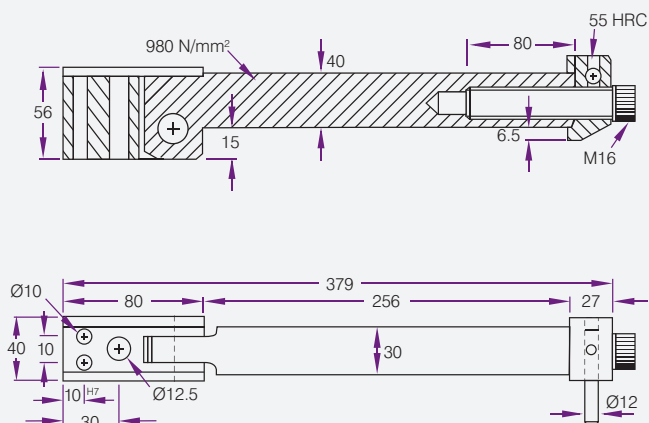


Type	Series	L	L1	L2	L3 MAX
01	ZH 90/01	140	120	110	60
02	ZH 90/02	204	184	174	124
06	ZH 90/06	250	230	220	170

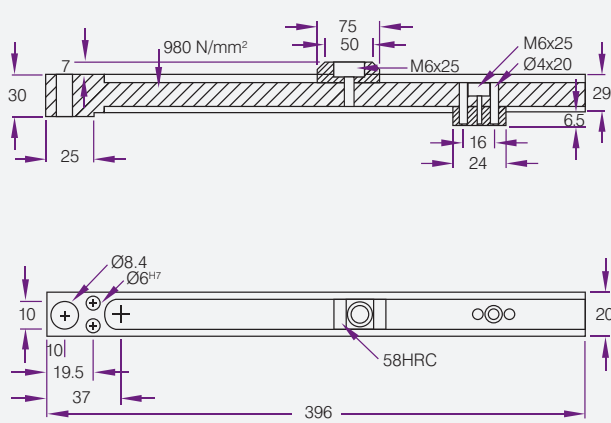
Type	Series	L
03	ZH 90/03	200
04	ZH 90/04	250
05	ZH 90/05	300



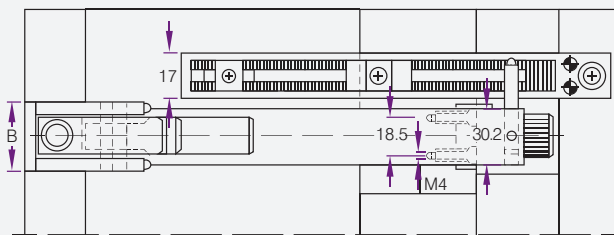
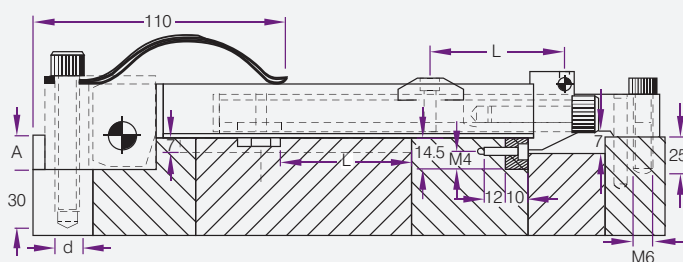
Series ZH 91/A



Series ZH 91/B

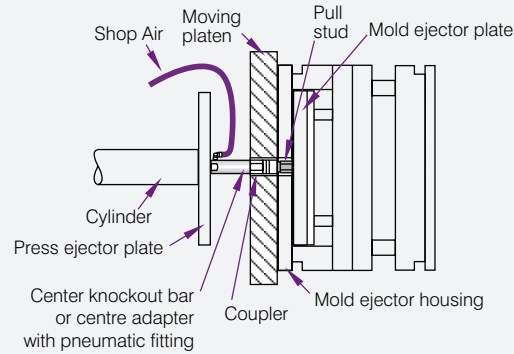


Standard Sets



Type	Fixed Sets	
Box 200 FIX	Qty 2	ZH 90/2
	Qty 2	ZH 90/03
Box 250 FIX	Qty 2	ZH 90/3
	Qty 2	ZH 90/04
Box 300 FIX	Qty 2	ZH 90/4
	Qty 2	ZH 90/05
Box 400 FIX	Qty 2	ZH 90/A
	Qty 2	ZH 90/B

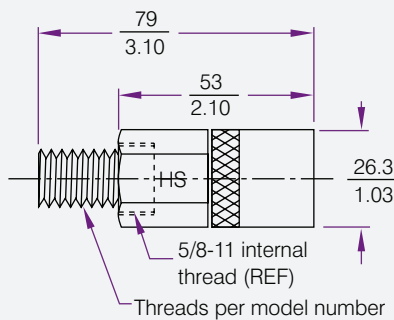
Type	Adjustable Sets	
Box 140 R	Qty 2	ZH 90/1
	Qty 2	ZH 90/01
Box 200 R	Qty 2	ZH 90/2
	Qty 2	ZH 90/02
Box 250 R	Qty 2	ZH 90/3
	Qty 2	ZH 90/6
Box 140 R	Qty 2	ZH 90/1 BIS
	Qty 2	ZH 90/01



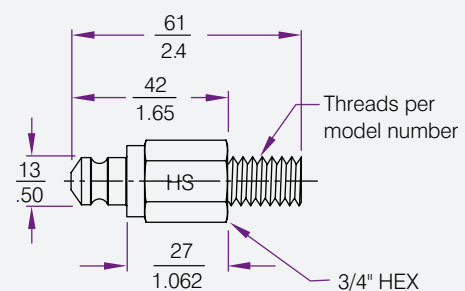
FasTie Quick-Connect Ejector System “tie-in” the mould ejector plate to the press ejection system.

A pneumatically-operated piston inside the coupler releases the pull stud from the press ejection system to reduce set-up and change-out times.

High Strength FasTie Couplers

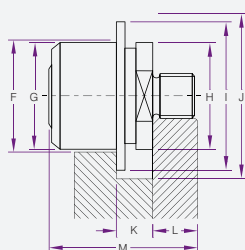
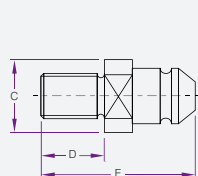


High Strength FasTie Stud

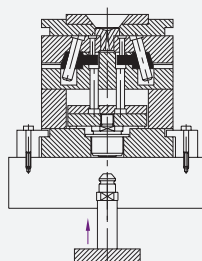


Model Number	Thread Size
FTFHS-50	1/2-13
FTFHS-63	5/8-11
FTFHS-M12	M12 x 1.75
FTFHS-M16	M16 x 2
FTMHS-M16	M16 x 2
FTMHS-M120	M20 x 2.5

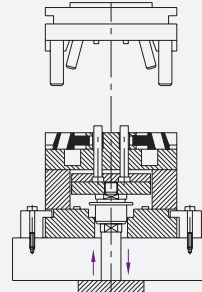
Model Number	Thread Size
FTMHS-38	3/8-16
FTMHS-50	1/2-13
FTMHS-63	5/8-11
FTMHS-M12	M12 x 1.75
FTMHS-M16	M16 x 2
FTMHS-M120	M20 x 2.5



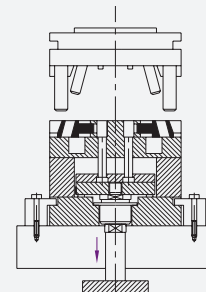
Mould Closed
Material Injected



Mould Open-Coupler
Engages & Pushes Forward



Coupler and Bars Pull
Back the Ejector Plate



Coupler

Product Code	Thread	F	G	H	I	J	K	L	M
302M12COUP	12x1.75	34	32	32	39	43	9	15	42.5
402M16COUP	16x1.5	40	38	38	48	53	13	15	52
402M162COUP	16x2	40	38	38	48	53	13	15	52
402M20COUP	20x1.5	40	38	38	48	53	13	15	52
412M16COUP	16x1.5	58	56	52	65	70	17	18	68
412M20COUP	20x2	58	56	52	65	70	17	18	68

Barbs

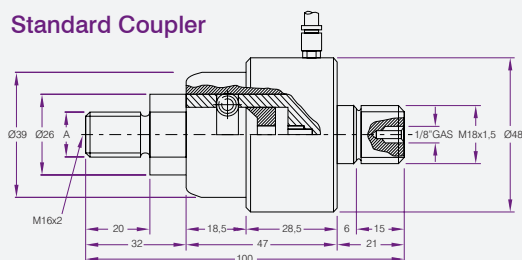
Product Code	Thread	C	D	E
301M12BARB	12x1.75	22.8	20	45.5
401M16BARB	16x2	25.8	20	55
401M20BARB	20x2.5	25.8	20	55
411M16BARB	16x2	35	35	68
411M20BARB	20x2.5	35	35	68

Air Ejector Couplers

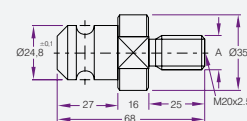
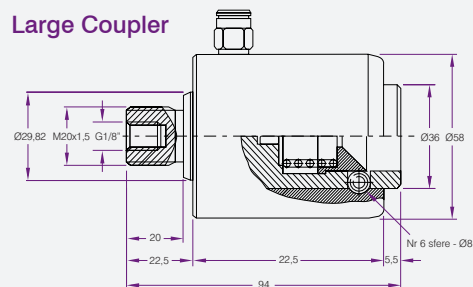
MOULD ACTIONS



Standard Coupler



Large Coupler



Product Code	Description
QKAC18	Standard Coupler
QKA20	Large Coupler



V250CE Compact Block Hydraulic Cylinder

The V250CE cylinders have been specially designed for being extremely compact and for applying the integrated end stroke magnetic switches. Furthermore their construction permits a high standardization with consequent lower price and immediate delivery time. Available bores: from 25 to 100 mm. Strokes 20, 50 and 80 mm. Depending on the bore. These cylinders are ideal for short stroke slides and cores on plastic injection moulds. The use for heavy duties is not recommended.

Technical Features:

Max. working pressure: up to 250 bar (3625 PSI)
Bore Size: 25 to 100 mm
Rod Size: 18 to 45 mm
Max. working temperature :
Magnetic version: 80°C - 176°F
Non-Magnetic version: 100°C - 212°F
Stroke : 20, 50 and 80 mm (according to the bore size)



V215CR Tie Rod Hydraulic Cylinder

The cylinders of V215CR range are built according to ISO 6020/2 Compact Norms and they are changeable with other similar cylinders (with reserve; personally verify all dimensions) This model permits a wide range of applications with the best compromise between quality and price where not particular requirements about pressure, temperature, dimensions are requested. Till bore 160 magnetic switches can be applied (with a proper version).

Technical Features:

Max. working pressure: up to 215 bar (3117 PSI)
Bore Size: 25 to 200 mm
Rod Size: 12 to 140 mm
Max. working temperature :
Magnetic version: 80°C - 176°F
Non-Magnetic version: 120°C - 248°F
Stroke: 20 and 1500 mm (according to the bore size)



V260CF Self-Locking Rod Hydraulic Cylinder

The V260CF are double-acting hydraulic cylinders with a mechanical locking system of the rod in the end stroke position (extended rod), which permits to contrast very high opposite thrusts. Such a solution is widely applicable in the field of plastic injection and die-casting molds, in order to stand the injection pressure on large molding surfaces. The rod is hydraulically unlocked automatically when the piston comes back. **WARNING:** For a correct functioning the cylinder it's necessary to complete all the times the total available cylinder stroke, both forward and backward, in order to assuring the locking on one side and to avoid hammer-effects on piston-rod screw on the other side. For a firm locking it is necessary to keep the oil in pressure, when pushing, at a minimum of 120 bar-1740 PSI. - Pay great attention to the traction force, which is considerably lower than the thrust.

Technical Features:

Max. working pressure: up to 260 bar (3770 PSI)
Bore Size: 30 to 84 mm
Rod Size: 20 to 60 mm
Stroke: 30 and 150 mm (according to the bore size)

Smartflow® Mould Protective Limit Switches are designed and built by engineers with expert mould-building experience. Thinswitch®, SmartLock® and Versaswitch™ are the benchmark switches in the injection moulding industry. Moulders rely on them to provide dependable position indication and protection for valuable injection moulds.



Thinswitch® Global Limit Switch

Liquid-Resistant Limit Switch - 3mm/4mm Height

Smartflow® Global Thinswitch® Limit Switch helps prevent accidental mould close in injection moulds by verifying ejector plate return in injection moulds with 3mm or 4mm rest buttons, and where occasional water or oil spray is present. A polyurethane dome covers the actuator spring, protecting internal gold switch contacts from environmental contamination.

- Adjustable actuation between 3.2mm and 4mm from the switch base (excludes spacer)
- Over 14 million cycle life
- 176F (80°C) standard temperature rating

Product Code

TW-222-LR



Thinswitch® Limit Switch

Verify ejector plate return before closing the mould. Mount inside ejector housing and wire to machine controls. Use for core slides or any place where space is limited.

- Prevents costly mould damage
- Small size - 2.15" L x 1.5" W x 0.18" thick
- Fits behind ejector plate
- 10 million cycle mechanical life
- Adjustable operating point
- Electrical capacity at 250V AC 5 Amps Resistive, 4 Amps Inductive
- Optional high temperature model

Product Code

T-222



Thinswitch® Liquid Resistant Limit Switch

Designed to verify ejector plate return in areas where occasional water or oil spray is present. The Thinswitch helps prevent accidental mould close in injection moulding applications by providing a position switch that is tied to the injection moulding machine control. The liquid resistant switch uses the same mounting hole locations as the original Thinswitch.

- Over 10 million cycle life
- 175F (79.4°C) standard temperature rating
- 250F (121°C) high temperature unit for higher temperature needs
- Mounting screws and wire clips included

Product Code

HT-291-LR



Smartlock® Core Slide Retainer and Limit Switch

The slide retainer and limit switch is designed for injection moulders to provide switching plus slide retaining in one unique package. The SMARTLOCK® locking function prevents premature slide movement during moulded part ejection while the SPDT switch is simultaneously actuated.

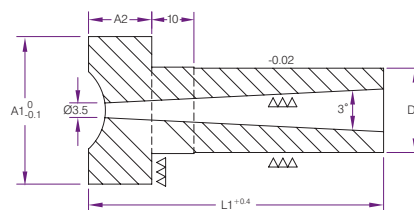
- New capture screw prevents plunger loss.
- Over 10 million cycle life provides long dependable service.
- 27 pounds holding force: adjustable for optimum operation.
- Stripped and tinned 6 ft. wire leads make the switch ready to install without modification.

Product Code

SL-222



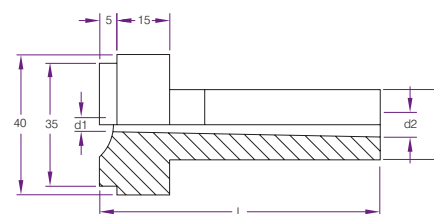
Material: S45C
Hardness: HRC50 + / - 2 (R)



Product Code	A1	D1	L1	A2	Radius
CS6	25	16	60	15	3/4
CS8	25	16	80	15	3/4
BM6	35	20	60	15	3/4
BM7	35	20	70	15	3/4
BM8	35	20	80	15	3/4
BM9	35	20	90	15	3/4
BM10	35	20	100	15	3/4

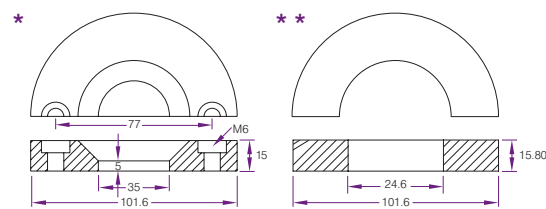


Material: S45C
Hardness: HRC50 + / - 2 (R)



Product Code	D	L	d1	d2	Radius
SB166	16	60	3.5	5.6	3/4
SB168	16	80	3.5	5.6	3/4
SB20060	20	60	3.5	5.6	3/4
SB20080	20	80	4	7	3/4
SB20100	20	100	4	10	3/4

Product Code	D	L	d1	d2	Radius
SB20120	20	120	4	12	3/4
SB25100	25	100	4	10	3/4
SB25120	25	120	4	12	3/4
SB25150	25	150	4	15	3/4



* - Finished Location Ring ** - Blank Location Ring

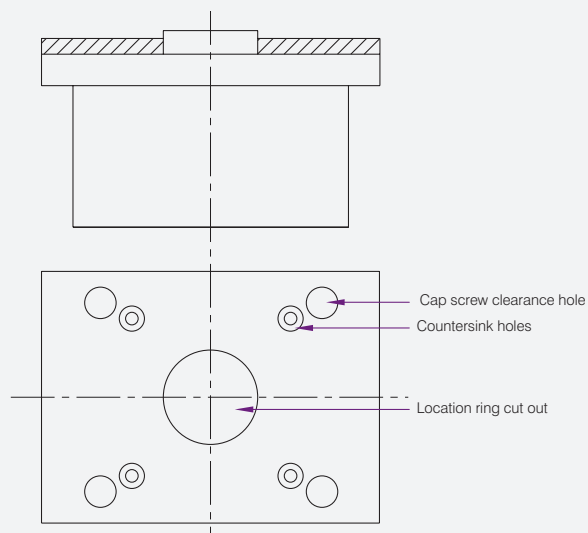
Product Code	Description	Material
LRB	4" Inch Location Ring Blank	S45C
LRF	4" Inch Finished Location Ring	S45C
LRFM110	110mm Finished Locating Ring	S45C

Machined to suit your application.

Polyester glass laminate.

Low thermal conductivity continuous to 220°C.

0.8 - 50mm thick available.



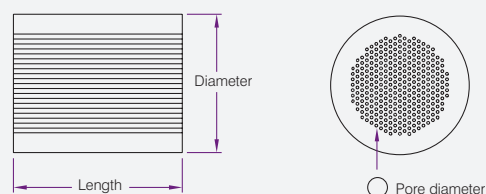
Sintered Vents

GENERAL



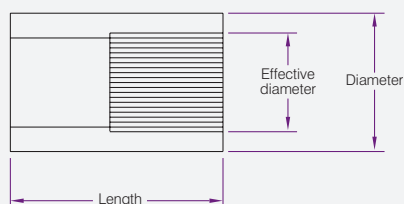
Blowmould, Diecast and Injection Moulding

Used for Blow Moulding, Diecasting or Vacuum Casting
Pore Diameter: 0.30mm



	Product Code									
	SV30510	SV30610	SV30615	SV30810	SV30815	SV31010	SV31015	SV31210	SV31215	SV31415
Diameter	5	6	6	8	8	10	10	12	12	14
No. of Pores	89	89	89	200	200	340	340	340	340	550
Length	10	10	15	10	15	10	15	10	15	15

Used for Plastic Injection Moulding
Pore Diameter: 0.03 ~ 0.10mm

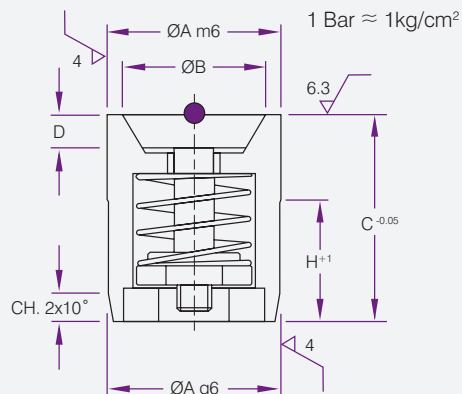


	Product Code									
	030410	030610	030810	031010	050610	050810	051010	100810	101010	
Outer Dia.	4	6	8	10	6	8	10	8	10	
Effective Dia.	2.5	2.5	2.5	2.5	3.5	3.5	3.5	5.5	5.5	
No. of Pores	606	606	606	606	804	804	804	780	780	
Length	10	10	10	10	10	10	10	10	10	

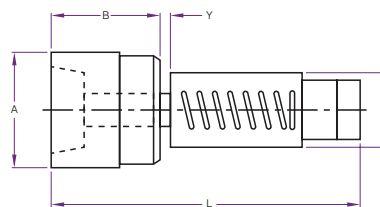


Material: INOX. 1.4034
Hardness: 51 ± 3 HRC.
Working pressure: 1.5-6 BARS.

Helps part ejection with air.

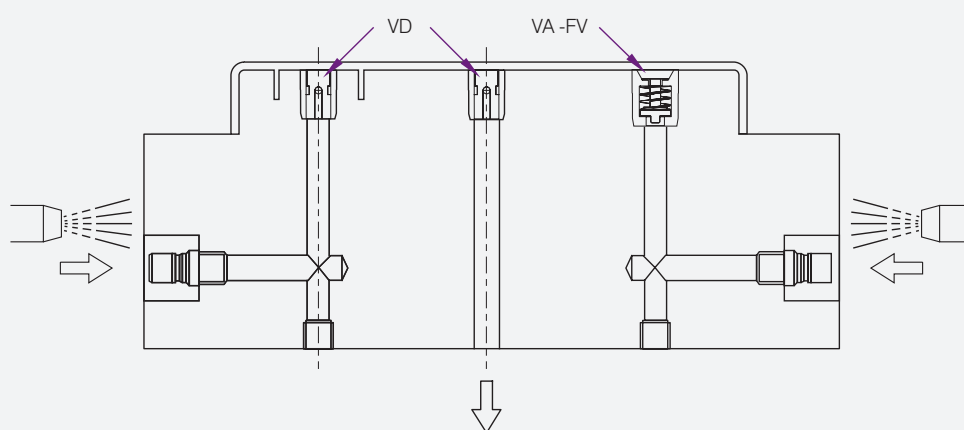
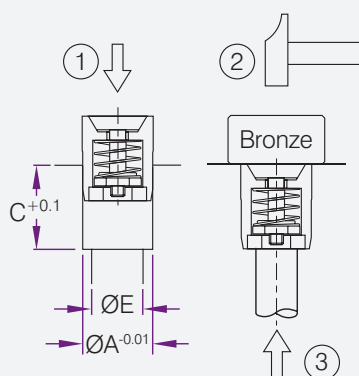
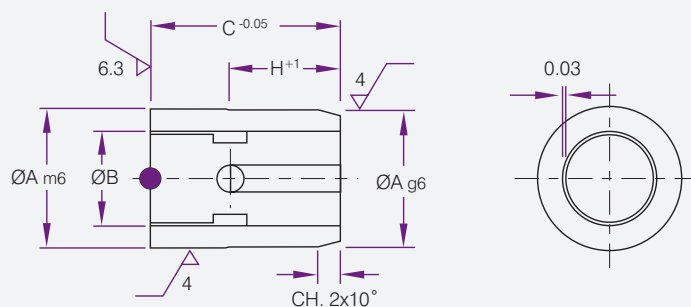


Product Code	A	B	C	D	E	H
VA.050412	5	3	12	1.5	4	7
VA.065212	6	5.2	12	1.5	4	7
VA.086512	8	6.5	12	1.5	4	7
VA.100812	10	8	12	2	8	7
VA.121012	12	10	12	2.5	10	7
VA.161320	16	13	20	3	12	12
VA.201720	20	17	20	3.5	16	12

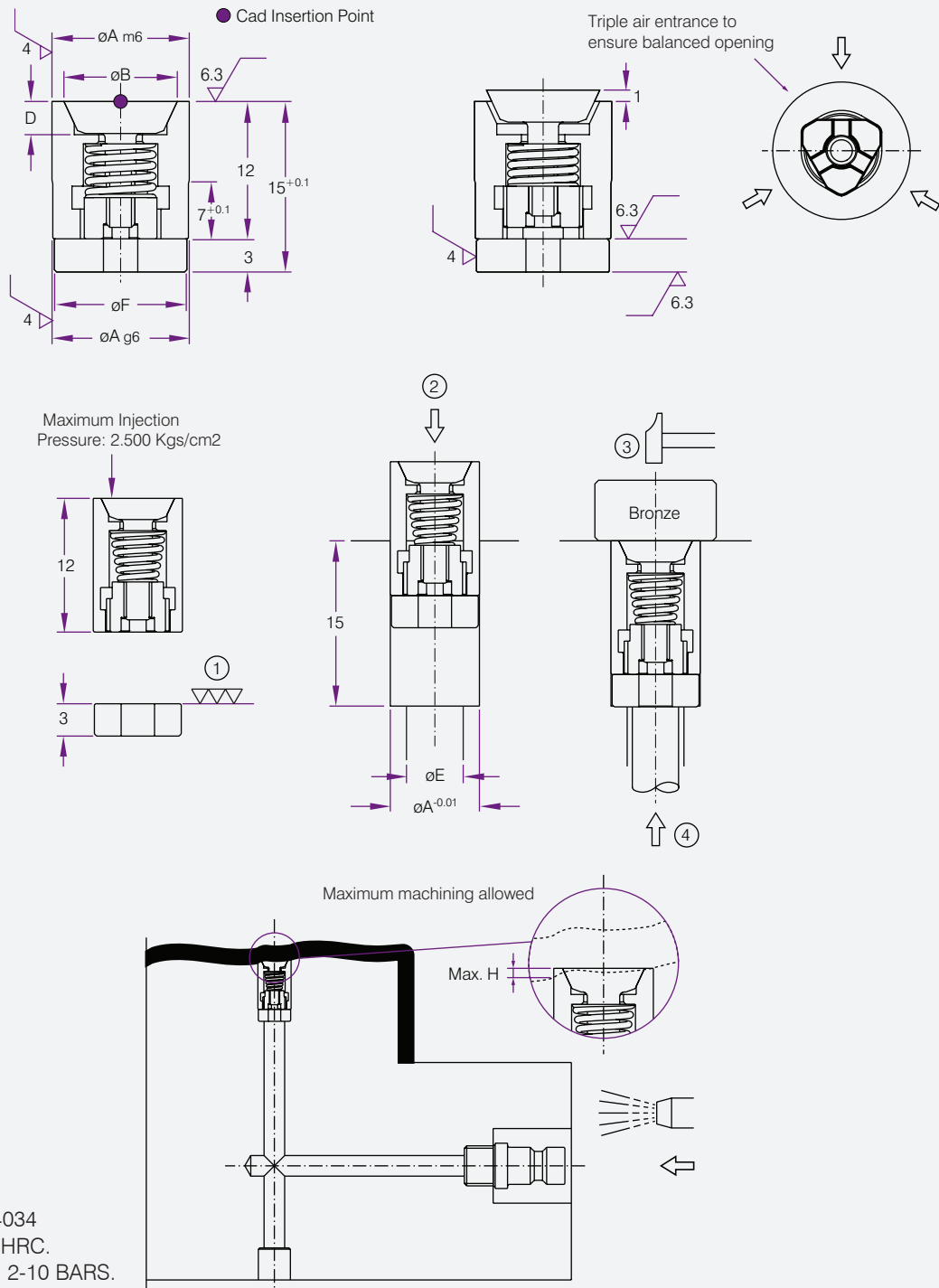


High Pressure Air Valve
 Stainless spring designed for fast cycles
 Max temperature 130°C

Product Code	A	B	C	L	Y
0IVA01N	8	11	6	24	1,0
0IVA02N	12	18	8	34	1,0
0IVA03N	18	22	12	45,5	1,0

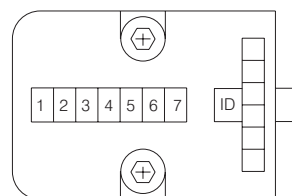


Product Code	A	B	C	E	H
VD.080512	8	5	12	4	7
VD.100612	10	6	12	5	7
VD.120812	12	8	12	7	7
VD.161020	16	10	20	9	12



Material: INOX. 1.4034
 Hardness: 51 $\pm$ 3 HRC.
 Working pressure: 2-10 BARS.

Product Code	A	B	D	E	F	H
VH.086515	8	6.6	2	5	7.8	0.75
VH.121015	12	9.9	2.9	5	11.8	1

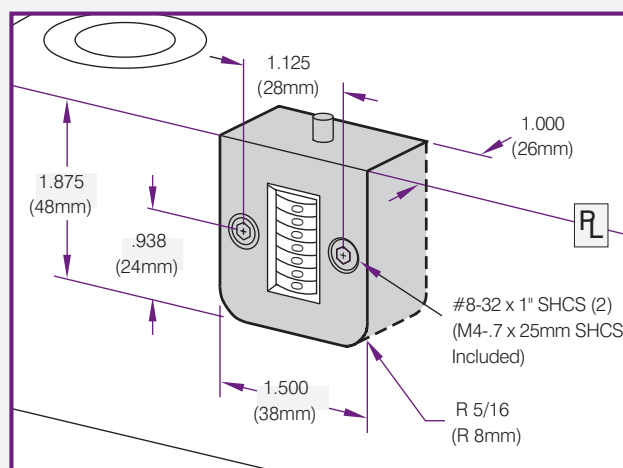


Progressive's CounterView positively monitors mold activity, validates process monitoring data, and assists mold maintenance procedures.

- Maximum operating temperature is 120°C (250°F)
- Counter: Bib-resettable mechanical, 7 digit.

Parting Line Mount

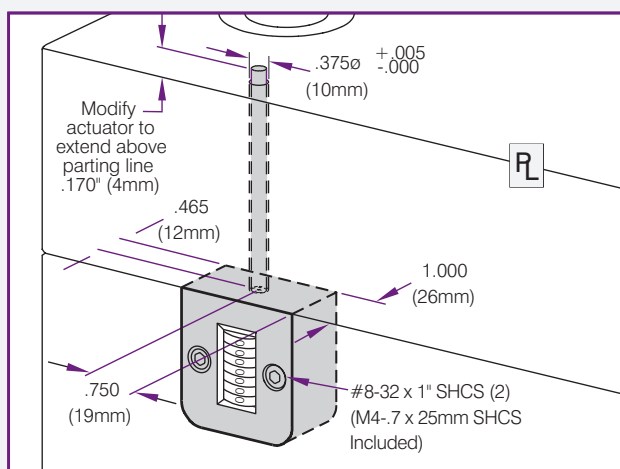
- Makes unit easily visible to operator



Product Code	Description
CVPL-100	Inch Standard
CVPL-200	Metric Standard

Internal Extension Mount

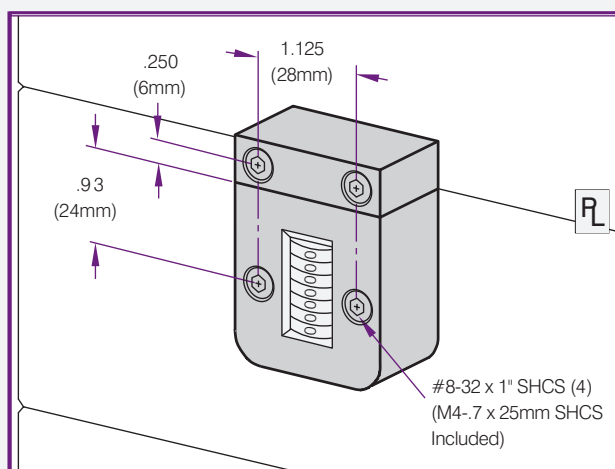
- Machinable 200mm (8") extension allows installation to sup. plate or rail.



Product Code	Description
CVIN-100	Inch Standard
CVIN-200	Metric Standard

External Mount

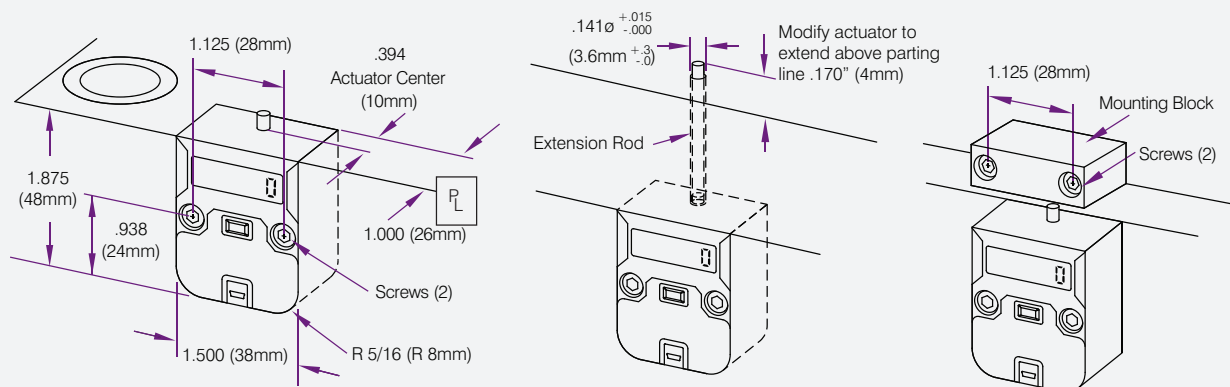
- No pocket machining necessary. Designed specifically for retrofit applications



Product Code	Description
CVEX-100	Inch Standard
CVEX-200	Metric Standard



- 7-digit LCD display with a push button to move through the display modes
- 4GB Flash drive for file storage and 4+ year battery within monitor
- Water resistant with an ingress protection rating of IP52
- Maximum temperature: 190° F (90° C)
- Dimensional compatibility with Progressive's mechanical CounterViews
- Mini USB connectivity for data retrieval with cables sold separately



507288

Cycle Count

Total cycles for the life of the mould is presented on the main screen of the CvE Monitor

EFF 93

Efficiency Percentage

The percentage of time that the mould has been actively cycling vs being idle

CYC 8.7

Cycle Time

Since the first production cycle, the cycle time is shown in seconds for the life of the mould.

EFFr 96

Efficiency Percentage-Recent

The percentage of time the mould has been active in the past 25,000 cycles.

CYCr 96

Cycle Time-Recent

Cycle time for the past 25,000 cycles

RES 1259

Cycle Count Reset

A separate counter that can be reset to 0 for interim monitoring of cycles when pressed and held

FLASHdr

Embedded Flash Drive

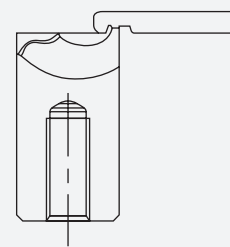
Users can utilize the 4GB flash drive on the CvE Monitor by connecting the device to a PC using an industry-standard mini USB cable, sold on the next page. Users press the button to get to the flash drive mode and then the storage area is represented on the PC by a new drive letter

Product Code	Description
CVE-INT	Internal Extension Rod (8"/200mm) including a hex key for the CvE Monitor set screw removal
CVE-EXT	External Mounting Block including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)
CVE-M	CvE Monitor v2 mould Maker/moulder version including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2)



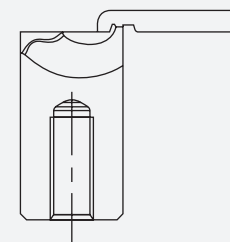
Standard Tunnel Gate Inserts Version S1 - With Machining Allowance

- With machining allowance on upper surface
- Available in round (TGR) and square versions (TGS)
- Available in 2 degrees of hardness (40 HRC/ 60 HRC)
- Highly wear-resistant hot worked steel M2 (1.3343)



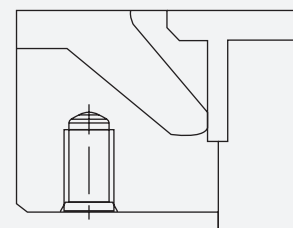
Standard Tunnel Gate Inserts Version S2 - With Vestige

- For flat parting surfaces, including vestige with integrated cutting edge
- Available in round (TGR) and square (TGS) versions
- Available in 2 degrees of hardness (40HRC/ 60 HRC)
- Highly wear-resistant hot worked steel M2 (1.3343)



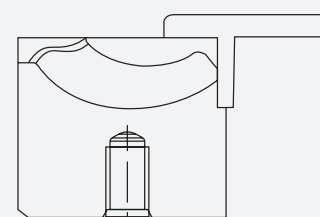
Straight Standard Sub-Gate Inserts Version TPS - For Side Gating

- Straight standard sub-gate for side gating
- Integrated dead-end recess reduces loss of pressure and shear stress
- Highly wear resistant hot working steel M2 (1.3343) - 54+2 HRC



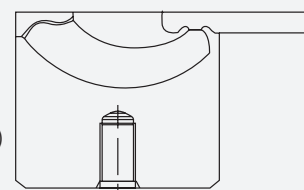
Contourable Tunnel Gate Inserts Version SGC - For Side Gating

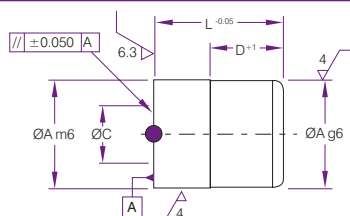
- Curved tunnel permits gating deep inside the part
- Integrated dead-end recess reduces loss of pressure and shear stress.
- Highly wear-resistant hot worked steel M2 (1.3343) -54+2HRC



Contourable Tunnel Gate Inserts Version TGC - With Machining Allowance

- With machining allowance on upper surface
- Available in round (TGR) and square versions (TGS)
- Available in 2 degrees of hardness (40 HRC/ 60 HRC)
- Highly wear-resistant hot worked steel M2 (1.3343)





Materials: INOX. 1.4034 **Hardness:** 51 ± 3 HRC.
Max. working temp 150°C Patented System

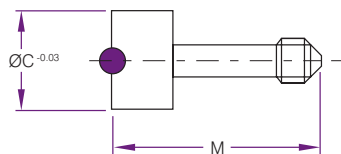
Inner insert is always at the same level as the body of the date stamp.
Wide range of diameters. Only a H7 pocket required for assembly.
No downtime when changing inserts. Internal mechanism guarantees
secure replacement of inserts.



12 Months	12 Month + Year	Year	Blank	A	C	D	E	L	N
FA0422SF	FA042212-...	FA042204-...	FA042200	4	2.2	6	3.5	12	4
FA0530SF	FA053012-...	FA053004-...	FA053000	5	3	6	3.5	12	4
FA0632SF	FA063212-...	FA063205-...	FA063200	6	3.2	12	4	20	5
FA0847SF	FA084712-...	FA084705-...	FA084700	8	4.7	12	6	20	5
FA1057SF	FA105712-...	FA105706-...	FA105700	10	5.7	12	8	20	6
FA1267SF	FA126712-...	FA126708-...	FA126700	12	6.7	12	10	20	8
FA1687SF	FA168712-...	FA168710-...	FA168700	16	8.7	12	12	20	10
FA2007SF	FA200712-...	FA200710-...	FA200700	20	10.7	12	14	20	10

DATE STAMPS

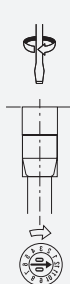
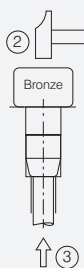
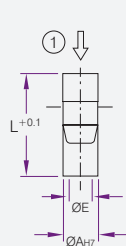
Date Stamp Inserts



Material: INOX. 1.4034
Hardness: 51 ± 3 HRC.



IMPORTANT
When replacing the insert, be sure to tighten until hearing the engagement "click".



Year and Arrow		
Product Code	C	M
IA2275 . .	2.2	7.5
IA3075 . .	3	7.5
IA3217 . .	3.2	17
IA4717 . .	4.7	17
IA5717 . .	5.7	17
IA6717 . .	6.7	17
IA8717 . .	8.7	17
IA1007 . .	10.7	17
Arrow Only		
Product Code	C	M
IA2275SF	2.2	7.5
IA3075SF	3	7.5
IA3217SF	3.2	17
IA4717SF	4.7	17
IA5717SF	5.7	17
IA6717SF	6.7	17
IA8717SF	8.7	17
IA1007SF	10.7	17



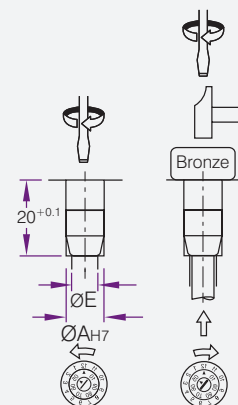
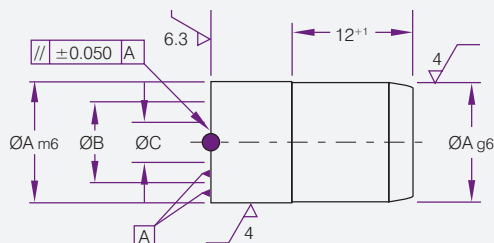
Materials: INOX. 1.4034

Hardness: 51 ± 3 HRC.

Maximum working temperature 100°C.

Patented System

Replaces the need for 2 separate date stamps. No need to machine 2 separate holes. Minimum space required for installation.



12 Month + Year	Blank	A	B	C	E	N
FD.080512-..	FD.080500	8	5.5	3	6	5
FD.120812-..	FD.120800	12	8	4	10	6
FD.161012-..	FD.161000	16	10.5	5.3	12	10

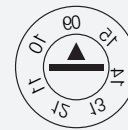
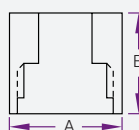
Mould Identification Month/Year Inserts

DATE STAMPS



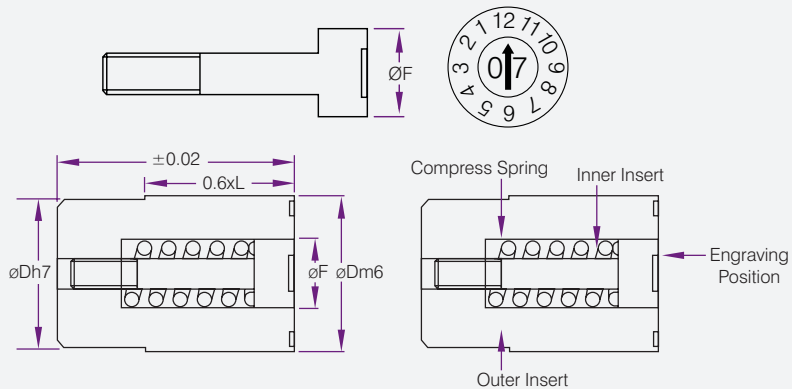
A = Diameter/Tolerance = +.00
-.02

B = Length/Tolerance = ± .03



DIA	A	B
DY-08	Dia 8.00	10.00
DY-10	Dia 10.00	10.00
DY-12	Dia 12.00	12.00
DY-16	Dia 16.00	14.00

DIA	A	B
DM-08	Dia 8.00	10.00
DM-10	Dia 10.00	10.00
DM-12	Dia 12.00	12.00
DM-16	Dia 16.00	14.00



Indication	DIA	Product Code	DIA	Product Code
Year + Month	6	CCMY_*_06	12	CCMY_*_12
	8	CCMY_*_08	16	CCMY_*_16
	10	CCMY_*_10	20	CCMY_*_20
Month	6	CCMA0006	12	CCMA0012
	8	CCMA0008	16	CCMA0016
	10	CCMA0010	20	CCMA0020
Year	6	CCYA_*_06	12	CCYA_*_12
	8	CCYA_*_08	16	CCYA_*_16
	10	CCYA_*_10	20	CCYA_*_20
Day	12	CCDA0012	20	CCDA0020
	16	CCDA0016	20	CCDA0020
Numbers	6	CCNA0006	12	CCNA0012
	8	CCNA0008	16	CCNA0016
	10	CCNA0010	20	CCNA0020
Shift	6	CCSA0006	12	CCSA0012
	8	CCSA0008	16	CCSA0016
	10	CCSA0010	20	CCSA0020
Blank	6	CCBA0006	12	CCBA0012
	8	CCBA0008	16	CCBA0016
	10	CCBA0010	20	CCBA0020

Indication	DIA	Product Code	DIA	Product Code
Year	3.1	CIY_*_06	6.2	CIY_*_12
	4.2	CIY_*_08	8.2	CIY_*_16
	5.2	CIY_*_10	11	CIY_*_20
Arrow	3.1	CIA0006	6.2	CIA0012
	4.4	CIA0008	8.2	CIA0016
	5.2	CIA0010	11	CIA0020
Month	6	COM0006	12	COM0012
	8	COM0008	16	COM0016
	10	COM0010	20	COM0020
Year	6	COY_*_06	12	COY_*_12
	8	COY_*_08	16	COY_*_16
	10	COY_*_10	20	COY_*_20
Day	12	COD0012	20	COD0020
	16	COD0016	20	COD0020
Numbers	6	CON0006	12	CON0012
	8	CON0008	16	CON0016
	10	CON0010	20	CON0020
Shift	6	COS0006	12	COS0012
	8	COS0008	16	COS0016
	10	COS0010	20	COS0020
Blank	6	COB0006	12	COB0012
	8	COB0008	16	COB0016
	10	COB0010	20	COB0020

Dimensions			
DIA	D	L	F
6	6	8	3.1
8	8	10	4.4
10	10	12	5.2
12	12	14	6.2
16	16	14	8.2
20	20	16	11

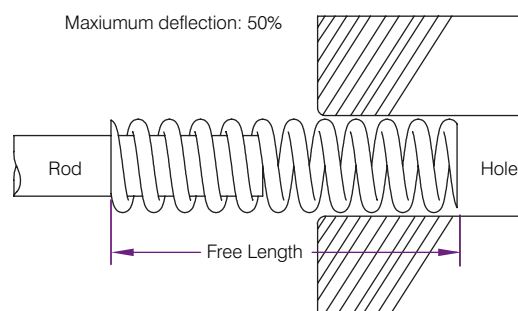


Silicone Chrome Die Springs

Raymond

Medium Duty

Colour - BLUE



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 50% of Free Length	Defl. for Average life 40% of Free Length		Defl. for Average life 25% of Free Length		Total Travel to Solid	
			mm	in		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8 10mm	3/16 4.5mm	DRM0308	25	1.00	5.6	0.500	23	0.400	14	0.250	31	0.545
		DRM0310	32	1.25	4.8	0.625	24	0.500	15	0.312	35	0.735
		DRM0312	38	1.50	3.8	0.750	23	0.600	14	0.375	34	0.906
		DRM0314	44	1.75	3.4	0.875	24	0.700	15	0.437	36	1.053
		DRM0316	51	2.00	2.8	1.000	22	0.800	14	0.500	35	1.248
		DRM0320	64	2.50	2.4	1.250	24	1.000	15	0.625	38	1.581
		DRM0324	76	3.00	1.8	1.500	22	1.200	14	0.750	35	1.931
		DRM0396	305	12.00	0.6	6.000	29	4.800	18	3.000	48	7.961
1/2 13mm	9/32 7mm	DRM0408	25	1.00	10.0	0.500	40	0.400	25	0.250	58	0.578
		DRM0410	32	1.25	9.2	0.625	46	0.500	29	0.312	66	0.722
		DRM0412	38	1.50	7.6	0.750	46	0.600	29	0.375	68	0.893
		DRM0414	44	1.75	6.8	0.875	48	0.700	30	0.437	71	1.048
		DRM0416	51	2.00	6.4	1.000	51	0.800	32	0.500	79	1.234
		DRM0420	64	2.50	5.2	1.250	52	1.000	33	0.625	81	1.550
		DRM0424	76	3.00	4.0	1.500	48	1.200	30	0.750	76	1.891
		DRM0428	89	3.50	3.0	1.750	42	1.400	26	0.875	67	2.233
	Wire 0.52 x 0.093	DRM0436	115	4.50	2.5	2.125	45	1.800	28	1.125	71	2.850
		DRM0496	305	12.00	0.8	6.000	38	4.800	24	3.000	56	6.931
5/8 16mm	11/32 8.5mm	DRM0508	25	1.00	13.0	0.500	52	0.400	33	0.250	55	0.420
		DRM0510	32	1.25	12.8	0.625	64	0.500	40	0.312	79	0.617
		DRM0512	38	1.50	10.8	0.750	65	0.600	41	0.375	88	0.815
		DRM0514	44	1.75	9.6	0.875	67	0.700	42	0.437	93	0.969
		DRM0516	51	2.00	8.8	1.000	70	0.800	44	0.500	102	1.157
		DRM0520	64	2.50	6.0	1.250	60	1.000	38	0.625	87	1.445
		DRM0524	76	3.00	5.6	1.500	67	1.200	42	0.750	103	1.840
		DRM0528	89	3.50	4.8	1.750	67	1.400	42	0.875	104	2.159
	Wire 0.69 x 0.109	DRM0532	102	4.00	4.4	2.000	70	1.600	44	1.000	113	2.576
		DRM0596	305	12.00	1.4	6.000	67	1.800	42	3.000	109	7.782
3/4 19mm	3/8 9.5mm	DRM0608	25	1.00	31.2	0.500	125	0.400	78	0.250	170	0.544
		DRM0610	32	1.25	25.6	0.625	128	0.500	80	0.312	179	0.699
		DRM0612	38	1.50	20.0	0.750	120	0.600	75	0.375	171	0.854
		DRM0614	44	1.75	17.6	0.875	123	0.700	77	0.437	176	1.000
		DRM0616	51	2.00	14.4	1.000	115	0.800	72	0.500	167	1.162
		DRM0620	64	2.50	12.0	1.250	120	1.000	75	0.625	177	1.474
		DRM0624	76	3.00	9.6	1.500	115	1.200	72	0.750	171	1.784
		DRM0628	89	3.50	8.0	1.750	112	1.400	70	0.875	168	2.094
		DRM0632	102	4.00	7.2	2.000	115	1.600	72	1.000	173	2.404
		DRM0636	115	4.50	6.4	2.250	115	1.800	72	1.125	174	2.714
		DRM0640	127	5.00	5.6	2.500	112	2.000	70	1.250	169	3.024
		DRM0644	139	5.50	4.8	2.750	106	2.200	66	1.375	160	3.334
		DRM0648	152	6.00	4.0	3.000	96	2.400	60	1.500	146	3.644
		DRM0696	305	12.00	2.4	6.000	115	4.800	72	3.000	177	7.364

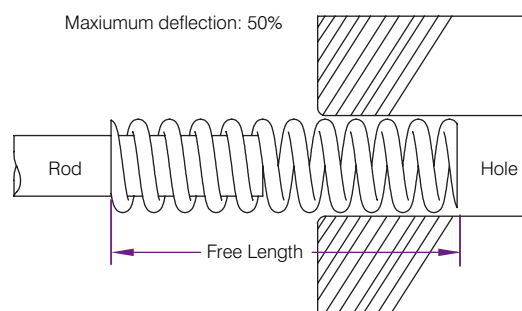


Silicone Chrome Die Springs

Raymond

Medium Duty

Colour - BLUE

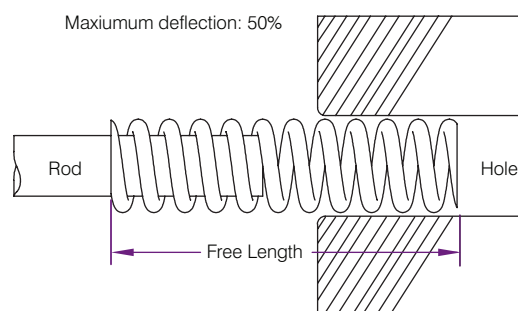


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 50% of Free Length	Defl.for Average life 40% of Free Length		Defl.for Average life 25% of Free Length		Total Travel to Solid	
			mm	in			Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds
1 26mm	1/2 12.5mm	DRM0808	25	1.00	53.6	0.500	214	0.400	134	0.250	264	0.493
		DRM0810	32	1.25	43.6	0.625	218	0.500	136	0.312	272	0.624
		DRM0812	38	1.50	33.6	0.750	202	0.600	126	0.375	274	0.816
		DRM0814	44	1.75	28.8	0.875	202	0.700	126	0.437	272	0.944
		DRM0816	51	2.00	23.2	1.000	186	0.800	116	0.500	258	1.114
		DRM0820	64	2.50	20.0	1.250	200	1.000	125	0.625	282	1.411
		DRM0824	76	3.00	15.2	1.500	182	1.200	114	0.750	260	1.708
		DRM0828	89	3.50	12.8	1.750	80	1.400	112	0.875	266	2.082
		DRM0832	102	4.00	12.0	2.000	192	1.600	120	1.000	276	2.303
		DRM0836	115	4.50	10.4	2.250	187	1.800	117	1.125	271	2.601
		DRM0840	127	5.00	9.6	2.500	192	2.000	120	1.250	278	2.898
		DRM0844	139	5.50	8.8	2.750	194	2.200	121	1.375	281	3.195
		DRM0848	152	6.00	8.0	3.000	192	2.400	120	1.500	279	3.493
		DRM0856	178	7.00	7.2	3.500	202	2.800	126	1.750	294	4.086
		DRM0864	203	8.00	5.6	4.000	180	3.200	112	2.000	262	4.682
1 1/4 32mm	5/8 15.5mm	DRM0896	305	12.00	4.0	6.000	192	4.800	120	3.000	282	7.062
		DRM1012	38	1.50	49.6	0.750	298	0.600	186	0.375	399	0.804
		DRM1014	44	1.75	42.4	0.875	296	0.700	185	0.437	402	0.947
		DRM1016	51	2.00	35.2	1.000	282	0.800	176	0.500	398	1.130
		DRM1020	64	2.50	28.8	1.250	288	1.000	180	0.625	419	1.456
		DRM1024	76	3.00	24.0	1.500	288	1.200	180	0.750	428	1.782
		DRM1028	89	3.50	20.0	1.750	280	1.400	175	0.875	422	2.108
		DRM1032	102	4.00	17.6	2.000	282	1.600	176	1.000	428	2.434
		DRM1036	115	4.50	16.0	2.500	288	1.800	180	1.125	442	2.760
		DRM1040	127	5.00	13.6	2.500	272	2.000	170	1.250	420	3.086
		DRM1044	139	5.50	12.8	2.750	282	2.200	176	1.375	437	3.412
		DRM1048	152	6.00	12.0	3.000	288	2.400	180	1.500	449	3.738
		DRM1056	178	7.00	10.4	3.500	291	2.800	182	1.750	457	4.390
		DRM1064	203	8.00	8.8	4.000	282	3.200	176	2.000	444	5.042
		DRM1080	254	10.00	7.2	5.000	288	4.000	180	2.500	457	6.346
DRM1096	305	12.00	5.6	6.000	269	4.800	168	3.000	428	7.650		

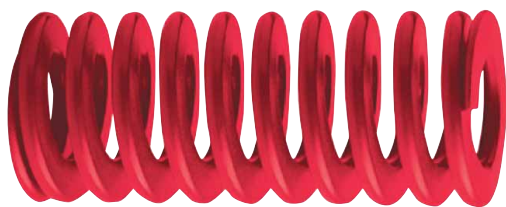


Silicone Chrome Die Springs
Raymond

Medium Duty
Colour - BLUE



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 50% of Free Length	Defl. for Average life 40% of Free Length		Defl. for Average life 25% of Free Length		Total Travel to Solid	
			mm	in		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/2 38mm	3/4 19mm	DRM1216	51	2.00	44.8	1.000	358	0.800	224	0.500	500	1.116
		DRM1220	64	2.50	36.8	1.250	368	1.000	230	0.625	532	1.446
		DRM1224	76	3.00	33.6	1.500	403	1.200	252	0.750	597	1.776
		DRM1228	89	3.50	26.4	1.750	370	1.400	231	0.875	547	2.072
		DRM1232	102	4.00	21.6	2.000	346	1.600	216	1.000	526	2.436
		DRM1236	115	4.50	20.8	2.250	374	1.800	234	1.125	575	2.766
		DRM1240	127	5.00	20.0	2.500	400	2.000	250	1.250	619	3.096
		DRM1244	139	5.50	16.8	2.750	370	2.200	231	1.375	576	3.426
	Wire 0.135 x 0.345	DRM1248	152	6.00	14.4	3.000	346	2.400	216	1.500	540	3.756
		DRM1256	178	7.00	13.6	3.500	381	2.800	238	1.750	601	4.416
		DRM1264	203	8.00	12.8	4.000	410	3.200	256	2.000	650	5.076
		DRM1280	254	10.00	8.8	5.000	352	4.000	220	2.500	563	6.396
2 51mm	1 29mm	DRM1296	305	12.00	8.0	6.000	384	4.800	240	3.000	606	7.580
		DRM1620	64	2.50	89.6	1.250	896	1.000	560	0.625	1179	1.316
		DRM1624	76	3.00	76.8	1.500	922	1.200	576	0.750	1243	1.619
		DRM1628	89	3.50	64.8	1.750	907	1.400	567	0.875	1245	1.922
		DRM1632	102	4.00	55.2	2.000	883	1.600	552	1.000	1228	2.224
		DRM1636	115	4.50	47.2	2.250	850	1.800	531	1.125	1193	2.527
		DRM1640	127	5.00	41.6	2.500	832	2.000	520	1.250	1177	2.830
		DRM1644	139	5.50	39.2	2.750	862	2.200	539	1.375	1228	3.132
		DRM1648	152	6.00	35.2	3.000	845	2.400	528	1.500	1209	3.435
		DRM1656	178	7.00	31.2	3.500	874	2.800	546	1.750	1260	4.040
		DRM1664	203	8.00	25.6	4.000	819	3.200	512	2.000	1189	4.645
		DRM1680	254	10.00	20.8	5.000	832	4.000	520	2.500	1218	5.857
		DRM1696	305	12.00	16.8	6.000	806	4.800	504	3.000	1187	7.067

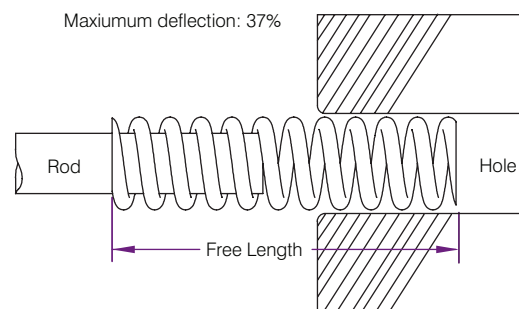


Silicone Chrome Die Springs

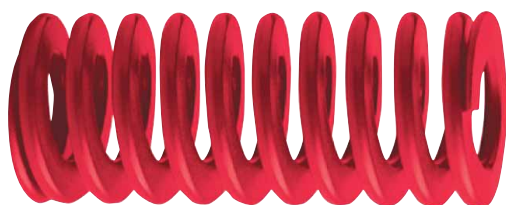
Raymond

Medium/Heavy Duty

Colour - RED



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 37% of Free Length	Defl.for Average life 25% of Free Length		Defl.for Average life 20% of Free Length		Total Travel to Solid	
			mm	in			Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds
3/8 10mm	3/16 4.5mm	DRHM0308	25	1.00	9.0	0.370	23	0.250	17	0.200	41	0.456
		DRMH0310	32	1.25	74.3	0.462	23	0.312	18	0.250	45	0.611
		DRMH0312	38	1.50	6.7	0.555	25	0.375	20	0.300	54	0.802
		DRMH0314	44	1.75	5.8	0.647	25	0.437	20	0.250	52	0.922
		DRMH0316	51	2.00	5.0	0.740	25	0.500	20	0.400	53	1.054
		DRMH0320	64	2.50	4.2	0.925	26	0.625	21	0.500	56	1.341
		DRMH0324	76	3.00	3.0	1.110	23	0.750	18	0.600	48	1.605
		DRMH0396	305	12.00	0.9	4.440	27	3.000	22	2.400	62	7.081
1/2 13mm	9/32 7mm	DRMH0408	25	1.00	16.8	0.370	42	0.250	34	0.200	84	0.499
		DRMH0410	32	1.25	13.9	0.462	43	0.312	35	0.250	90	0.647
		DRMH0412	38	1.50	12.0	0.555	45	0.375	36	0.300	97	0.811
		DRMH0414	44	1.75	10.4	0.647	45	0.437	36	0.350	100	0.962
		DRMH0416	51	2.00	8.7	0.740	44	0.500	35	0.400	96	1.108
		DRMH0420	64	2.50	6.8	0.925	43	0.625	34	0.500	95	1.404
		DRMH0424	76	3.00	2.7	1.110	43	0.750	34	0.600	98	1.717
		DRMH0428	89	3.50	4.7	1.295	41	0.875	33	0.700	94	1.998
5/8 16mm	11/32 8.5mm	DRMH0496	3.5	12.00	1.2	4.440	36	3.000	29	2.400	79	6.616
		DRMH0508	25	1.00	27.7	0.370	69	0.250	55	0.200	106	0.383
		DRMH0510	32	1.25	20.8	0.462	65	0.312	52	0.250	104	0.498
		DRMH0512	38	1.50	19.0	0.555	71	0.375	57	0.300	126	0.664
		DRMH0514	44	1.75	16.8	0.647	73	0.437	59	0.350	141	0.837
		DRMH0516	51	2.00	14.8	0.740	74	0.500	59	0.400	148	0.997
		DRMH0520	64	2.50	11.5	0.925	72	0.625	58	0.500	143	1.246
		DRMH0524	76	3.00	10.0	1.110	75	0.750	60	0.600	156	1.558
Wire 0.061 x 0.093	Wire 0.081 x 0.117	DRMH0528	89	3.50	8.5	1.295	74	0.875	60	0.700	155	1.828
		DRMH0532	102	4.00	7.6	1.482	76	1.000	61	0.800	166	2.182
		DRMH0596	305	12.00	2.7	4.440	81	3.000	65	2.400	184	6.817
		DRMH0608	25	1.00	57.6	0.370	144	0.250	115	0.200	259	0.450
		DRMH0610	32	1.25	44.8	0.462	140	0.361	112	0.250	265	0.592
		DRMH0612	38	1.50	32.0	0.555	120	0.375	96	0.300	235	0.735
		DRMH0614	44	1.75	28.8	0.647	126	0.437	101	0.350	252	0.874
		DRMH0616	51	2.00	24.8	0.740	124	0.500	99	0.400	253	1.020
Wire 0.093 x 0.156	Wire 0.093 x 0.156	DRMH0620	64	2.50	19.2	0.925	120	0.625	96	0.500	251	1.305
		DRMH0624	76	3.00	14.4	1.110	108	0.750	86	0.600	229	1.590
		DRMH0628	89	3.50	12.8	1.295	112	0.875	90	0.700	240	1.875
		DRMH0632	102	4.00	12.0	1.480	120	1.000	96	0.800	259	2.160
		DRMH0636	115	4.50	11.2	1.665	136	1.125	101	0.900	274	2.445
		DRMH0640	127	5.00	10.4	1.850	130	1.250	104	1.000	286	2.753
		DRMH0644	139	5.50	9.6	2.035	132	1.375	106	1.100	289	3.014
		DRMH0648	152	6.00	8.0	2.220	120	1.500	96	1.200	264	3.300
DRMH0696	305	12.00	3.6	4.440	108	3.000	86	2.400	232	6.455		

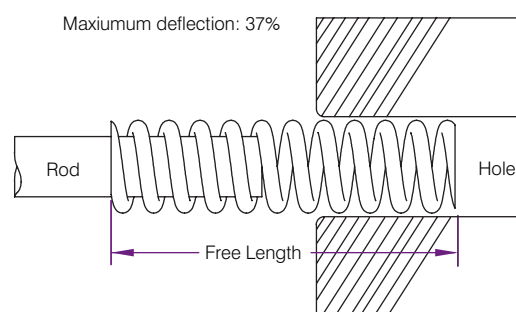


Silicone Chrome Die Springs

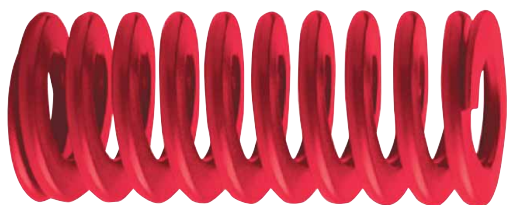
Raymond

Medium/Heavy Duty

Colour - RED



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 37% of Free Length	Defl. for Average life 25% of Free Length		Defl. for Average life 20% of Free Length		Total Travel to Solid	
			mm	in		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 26mm	1/2 12.5mm	DRMH0808	25	1.00	72.0	0.370	180	0.250	144	0.200	297	0.412
		DRMH0810	32	1.25	62.4	0.462	195	0.312	156	0.250	300	0.481
		DRMH0812	38	1.50	49.6	0.555	186	0.375	149	0.300	350	0.706
		DRMH0814	44	1.75	44.0	0.647	192	0.437	154	0.350	364	0.828
		DRMH0816	51	2.00	36.8	0.740	184	0.500	147	0.400	368	1.000
		DRMH0820	64	2.50	28.8	0.925	180	0.625	144	0.500	373	1.295
		DRMH0824	76	3.00	23.2	1.110	174	0.750	139	0.600	369	1.589
		DRMH0828	89	3.50	21.6	1.295	189	0.875	151	0.700	407	1.883
		DRMH0832	102	4.00	18.4	1.480	184	1.000	147	0.800	401	2.179
		DRMH0836	115	4.50	15.2	1.665	171	1.125	137	0.900	376	2.471
	Wire 0.115 x 0.218	DRMH0840	127	5.00	14.4	1.850	180	1.250	144	1.000	398	2.766
		DRMH0844	139	5.50	12.8	2.035	176	1.375	141	1.100	377	2.942
		DRMH0848	152	6.00	11.2	2.220	168	1.500	134	1.200	362	3.236
		DRMH0856	178	7.00	9.6	2.590	168	1.750	134	1.400	367	3.825
		DRMH0864	203	8.00	8.8	2.960	176	2.000	141	1.600	388	4.413
1 1/4 32mm	5/8 15.5mm	DRMH0896	305	12.00	5.6	4.440	168	3.000	134	2.400	379	6.767
		DRMH1012	38	1.50	114.4	0.555	429	0.375	343	0.300	752	0.657
		DRMH1014	44	1.75	100.8	0.647	440	0.437	353	0.350	790	0.784
		DRMH1016	51	2.00	86.4	0.740	432	0.500	346	0.400	792	0.917
		DRMH1020	64	2.50	62.4	0.925	390	0.625	312	0.500	734	1.176
		DRMH1024	76	3.00	51.2	1.110	384	0.750	307	0.600	735	1.435
		DRMH1028	89	3.50	44.0	1.295	385	0.875	308	0.700	745	1.694
		DRMH1032	102	4.00	36.8	1.480	368	1.000	294	0.800	719	1.954
		DRMH1036	115	4.50	32.0	1.665	360	1.125	288	0.900	708	2.213
		DRMH1040	127	5.00	27.2	1.850	340	1.250	272	1.000	672	2.472
	Wire 0.156 x 0.281	DRMH1044	139	5.50	26.4	2.035	363	1.375	290	1.100	720	2.731
		DRMH1048	152	6.00	23.2	2.220	348	1.500	278	1.200	712	3.071
		DRMH1056	178	7.00	20.0	2.590	350	1.750	280	1.400	702	3.509
		DRMH1064	203	8.00	18.4	2.960	368	2.000	294	1.600	741	4.028
		DRMH1080	254	10.00	12.8	3.700	320	2.500	256	2.000	648	5.065
		DRMH1096	305	12.00	11.2	4.440	336	3.000	269	2.400	683	6.102

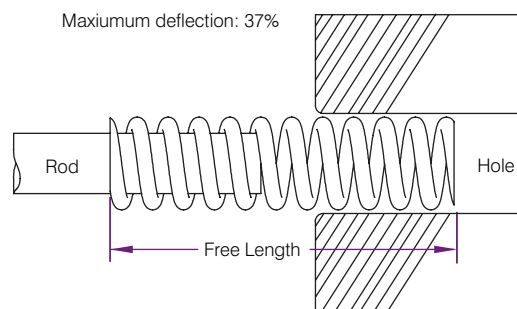


Silicone Chrome Die Springs

Raymond

Medium/Heavy Duty

Colour - RED

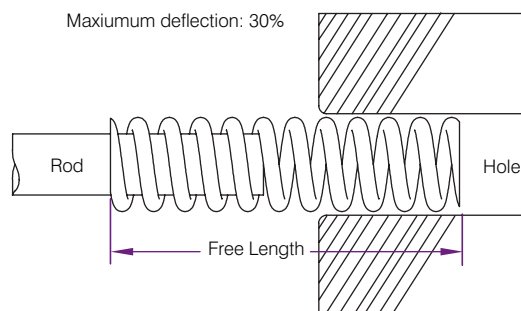


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 37% of Free Length	Defl. for Average life 25% of Free Length		Defl. for Average life 20% of Free Length		Total Travel to Solid	
			mm	in		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/2 38mm	3/4 19mm	DRMH1216	51	2.00	108.0	0.740	540	0.500	432	0.400		
		DRMH1220	64	2.50	85.6	0.925	535	0.625	428	0.500	988	1.154
		DRMH1224	76	3.00	62.4	1.100	468	0.750	374	0.600	882	1.414
		DRMH1228	89	3.50	52.8	1.295	462	0.875	370	0.700	883	1.673
		DRMH1232	102	4.00	48.0	1.480	480	1.000	384	0.800	928	1.933
		DRMH1236	115	4.50	43.2	1.665	486	1.125	389	0.900	947	2.192
		DRMH1240	127	5.00	36.8	1.850	460	1.250	368	1.000	902	2.452
		DRMH1244	139	5.50	34.4	2.035	473	1.375	378	1.100	933	2.712
		DRMH1248	152	6.00	30.4	2.220	456	1.500	365	1.200	903	2.971
		DRMH1256	178	7.00	26.4	2.590	462	1.750	370	1.400	934	3.359
		DRMH1264	203	8.00	20.8	2.960	416	2.000	333	1.600	844	4.058
		DRMH1280	254	10.00	17.6	3.700	440	2.500	352	2.000	907	5.154
		DRMH1296	305	12.00	14.4	4.440	432	3.000	346	2.400	883	6.135
2 51mm	1 25mm	DRMH1620	64	2.50	118.4	0.925	740	0.625	592	0.500	1326	1.120
		DRMH1624	76	3.00	96.0	1.110	720	0.750	576	0.600	1334	1.390
		DRMH1628	89	3.50	80.0	1.295	700	0.875	560	0.700	1328	1.660
		DRMH1632	102	4.00	66.4	1.480	664	1.000	531	0.800	1282	1.930
		DRMH1636	115	4.50	60.0	1.665	675	1.125	540	0.900	1320	2.200
		DRMH1640	127	5.00	56.0	1.850	700	1.250	560	1.000	1383	2.470
		DRMH1644	139	5.50	50.4	2.035	693	1.375	554	1.100	1381	2.740
		DRMH1648	152	6.00	47.2	2.220	708	1.500	566	1.220	1421	3.010
		DRMH1656	178	7.00	40.0	2.590	700	1.750	560	1.400	1420	3.550
		DRMH1664	203	8.00	35.2	2.960	704	2.000	563	1.600	1440	4.090
		DRMH1680	254	10.00	24.0	3.700	600	2.500	480	2.000	1241	5.170
		DRMH1696	305	12.00	22.4	4.440	672	3.000	538	2.400	1400	6.250



Silicone Chrome Die Springs
Raymond

Heavy Duty
Colour - GOLD

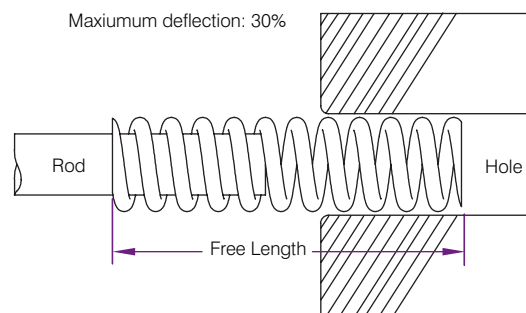


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 30% of Free Length	Defl. for Average life 20% of Free Length		Defl. for Average life 15% of Free Length		Total Travel to Solid	
			mm	in		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8 10mm	3/16 4.5mm	DRH0308	25	1.00	12.4	0.300	25	0.200	18	0.150	44	0.354
		DRH0310	32	1.25	9.8	0.375	25	0.250	18	0.187	45	0.463
		DRH0312	38	1.50	9.6	0.450	29	0.300	22	0.225	55	0.573
		DRH0314	44	1.75	8.4	0.525	29	0.350	22	0.262	58	0.686
		DRH0316	51	2.00	7.2	0.600	29	0.400	22	0.300	57	0.792
		DRH0320	64	2.50	6.0	0.750	30	0.500	23	0.375	66	1.011
		DRH0324	76	3.00	4.2	0.900	25	0.600	19	0.450	51	1.216
		DRH0396	305	12.00	1.2	3.600	29	2.400	22	1.800	70	5.818
1/2 13mm	9/32 7mm	DRH0408	25	1.00	23.6	0.300	47	0.200	35	0.150	107	0.455
		DRH0410	32	1.25	18.6	0.375	47	0.250	35	0.187	109	0.587
		DRH0412	38	1.50	16.4	0.450	49	0.300	37	0.225	121	0.737
		DRH0414	44	1.75	13.8	0.525	48	0.350	36	0.262	116	0.844
		DRH0416	51	2.00	11.0	0.600	44	0.400	33	0.300	110	1.000
		DRH0420	64	2.50	8.4	0.750	42	0.500	32	0.375	106	1.264
		DRH0424	76	3.00	7.4	0.900	44	0.600	33	0.450	113	1.528
		DRH0428	89	3.50	6.4	1.050	45	0.700	34	0.525	116	1.810
5/8 16mm	11/32 8.5mm	DRH0508	25	1.00	42.4	0.300	85	0.200	64	0.150	151	0.357
		DRH0510	32	1.25	29.6	0.375	74	0.250	55	0.187	140	0.474
		DRH0512	38	1.50	27.2	0.450	82	0.300	61	0.225	165	0.606
		DRH0514	44	1.75	24.0	0.525	84	0.350	63	0.262	175	0.730
		DRH0516	51	2.00	20.8	0.600	83	0.400	62	0.300	179	0.860
		DRH0520	64	2.50	17.0	0.750	85	0.500	64	0.375	190	1.118
		DRH0524	76	3.00	14.4	0.900	86	0.600	65	0.450	198	1.375
		DRH0528	89	3.50	12.2	1.050	85	0.700	64	0.525	199	1.633
		DRH0532	102	4.00	10.8	1.200	86	0.800	65	0.600	204	1.890
		DRH0596	305	12.00	4.0	3.600	96	2.400	72	1.800	201	5.016
3/4 19mm	3/8 9.5mm	DRH0608	25	1.00	108.0	0.300	216	0.200	162	0.150	324	0.300
		DRH0610	32	1.25	86.8	0.375	217	0.250	162	0.187	353	0.407
		DRH0612	38	1.50	65.6	0.450	197	0.300	148	0.225	337	0.514
		DRH0614	44	1.75	60.0	0.525	210	0.350	157	0.262	361	0.601
		DRH0616	51	2.00	49.6	0.600	198	0.400	149	0.300	361	0.728
		DRH0620	64	2.50	37.6	0.750	188	0.500	141	0.375	354	0.924
		DRH0624	76	3.00	31.2	0.900	187	0.600	140	0.450	361	1.156
		DRH0628	89	3.50	26.4	1.050	185	0.700	139	0.525	361	1.369
		DRH0632	102	4.00	23.2	1.200	186	0.800	139	0.600	367	1.583
		DRH0636	115	4.50	20.0	1.350	180	0.900	135	0.675	359	1.797
		DRH0640	127	5.00	17.6	1.500	176	1.000	132	0.750	354	2.011
		DRH0646	139	5.50	16.0	1.650	176	1.100	132	0.825	356	2.225
		DRH0648	152	6.00	14.4	1.800	173	1.200	130	0.900	351	2.438
		DRH0696	305	12.00	7.2	3.600	173	2.400	130	1.800	382	5.300



Silicone Chrome Die Springs
Raymond

Heavy Duty
Colour - GOLD

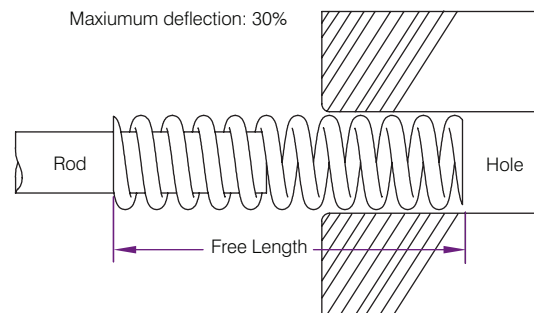


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 30% of Free Length	Defl.for Average life 20% of Free Length		Defl.for Average life 15% of Free Length		Total Travel to Solid	
			mm	in		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 26mm	1/2 12.5mm	DRH0808	25	1.00	208.0	0.270	416	0.200	312	0.150	614	0.295
		DRH0810	32	1.25	171.2	0.380	428	0.250	320	0.187	540	0.315
		DRH0812	38	1.50	118.4	0.450	355	0.300	266	0.225	598	0.505
		DRH0814	44	1.75	104.0	0.525	364	0.350	272	0.262	655	0.630
		DRH0816	51	2.00	84.0	0.600	336	0.400	252	0.300	600	0.714
		DRH0820	64	2.50	68.0	0.750	340	0.500	255	0.375	628	0.924
		DRH0824	76	3.00	54.4	0.900	326	0.600	245	0.450	617	1.134
		DRH0828	89	3.50	45.6	1.050	319	0.700	239	0.525	612	1.343
		DRH0832	102	4.00	40.0	1.200	320	0.800	240	0.600	621	1.553
		DRH0836	115	4.50	35.2	1.350	317	0.900	238	0.675	621	1.763
		DRH0840	127	5.00	31.2	1.500	312	1.000	234	0.750	615	1.972
		DRH0844	139	5.50	28.8	1.650	317	1.100	238	0.825	628	2.182
		DRH0848	152	6.00	25.6	1.800	307	1.200	230	0.900	612	2.392
		DRH0856	178	7.00	22.4	2.100	314	1.400	235	1.050	630	2.811
		DRH0864	203	8.00	19.2	2.400	307	1.600	230	1.200	620	3.230
1 1/4 32mm	5/8 15.5mm	DRH1012	38	1.50	212.0	0.450	636	0.300	477	0.225	954	0.450
		DRH1014	44	1.75	181.6	0.525	636	0.350	476	0.262	1017	0.560
		DRH1016	51	2.00	149.6	0.600	598	0.400	449	0.300	950	0.635
		DRH1018	64	2.50	117.6	0.750	588	0.500	441	0.375	964	0.820
		DRH1020	76	3.00	95.2	0.900	571	0.600	428	0.450	957	1.005
		DRH1024	89	3.50	75.2	1.050	526	0.700	395	0.525	895	1.190
		DRH1028	102	4.00	66.4	1.200	531	0.800	398	0.600	913	1.375
		DRH1032	115	4.50	58.4	1.350	526	0.900	394	0.675	911	1.560
		DRH1036	127	5.00	49.6	1.500	496	1.000	372	0.750	866	1.745
		DRH1040	139	5.50	47.2	1.650	519	1.100	389	0.828	911	1.930
		DRH1048	152	6.00	42.4	1.800	509	1.200	382	0.900	897	2.115
		DRH1056	178	7.00	36.8	2.100	515	1.400	386	1.050	914	2.485
		DRH1064	203	8.00	32.8	2.400	525	1.600	394	1.200	936	2.855
		DRH1080	254	10.00	25.6	3.000	512	2.000	384	1.500	920	3.595
		DRH1096	305	12.00	20.8	3.600	499	2.400	374	1.800	902	4.335

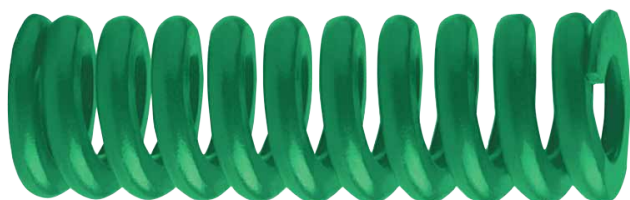


Silicone Chrome Die Springs
Raymond

Heavy Duty
Colour - GOLD



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 30% of Free Length	Defl.for Average life 20% of Free Length		Defl.for Average life 15% of Free Length		Total Travel to Solid	
			mm	in			Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/2 38mm	3/4 19mm	DRH1216	51	2.00	190.4	0.600	762	0.400	571	0.300	1346	0.707
		DRH1220	64	2.50	148.8	0.750	744	0.500	558	0.375	1446	0.972
		DRH1224	76	3.00	122.4	0.900	734	0.600	551	0.450	1443	1.179
		DRH1228	89	3.50	106.4	1.050	745	0.700	559	0.525	1535	1.443
		DRH1232	102	4.00	91.2	1.200	730	0.800	547	0.600	1505	1.650
		DRH1236	115	4.50	78.4	1.350	706	0.900	529	0.675	1478	1.885
		DRH1240	127	5.00	71.2	1.500	712	1.000	534	0.750	1509	2.120
		DRH1244	139	5.50	64.0	1.650	704	1.100	528	0.825	1508	2.357
		DRH1248	152	6.00	58.4	1.800	701	1.200	526	0.900	1514	2.592
		DRH1256	178	7.00	49.6	2.100	694	1.400	521	1.050	1520	3.064
		DRH1264	203	8.00	43.2	2.400	691	1.600	518	1.200	1527	3.535
		DRH1280	254	10.00	34.4	3.000	688	2.000	516	1.500	1540	4.477
		DRH1296	305	12.00	28.8	3.600	691	2.400	518	1.800	1561	5.420
2 51mm	1 26mm	DRH1620	64	2.50	220.0	0.750	1100	0.500	825	0.375	1982	0.901
		DRH1624	76	3.00	185.6	0.900	1114	0.600	835	0.450	2189	1.147
		DRH1628	89	3.50	160.0	1.050	1220	0.700	840	0.525	2227	1.392
		DRH1632	102	4.00	133.6	1.200	1069	0.800	802	0.600	2188	1.638
		DRH1636	115	4.50	117.6	1.350	1058	0.900	794	0.675	2216	1.884
		DRH1640	127	5.00	104.0	1.500	1040	1.000	780	0.750	2214	2.129
		DRH1644	139	5.50	92.8	1.650	1021	1.100	766	0.825	2204	2.375
		DRH1648	152	6.00	83.2	1.800	998	1.200	749	0.900	2181	2.621
		DRH1656	178	7.00	73.6	2.100	1030	1.400	773	1.050	2290	3.112
		DRH1664	203	8.00	64.0	2.400	1024	1.600	768	1.200	2306	3.603
		DRH1680	254	10.00	48.8	3.000	976	2.000	732	1.500	2238	4.586
		DRH1696	305	12.00	40.0	3.600	960	2.400	720	1.800	2227	5.568

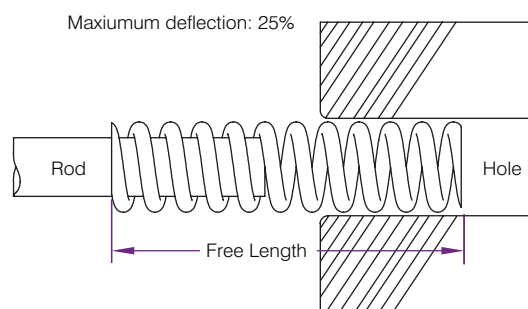


Silicone Chrome Die Springs

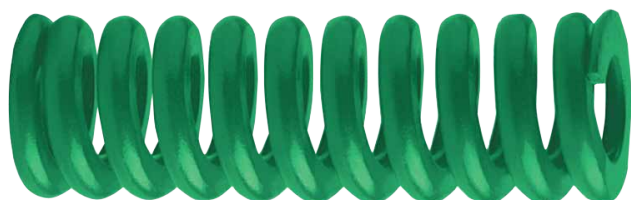
Raymond

Extra Heavy Duty

Colour - GREEN



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 25% of Free Length	Defl. for Average life 20% of Free Length		Defl. for Average life 15% of Free Length		Total Travel to Solid	
			mm	in.		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8 10mm	3/16 4.5mm	DRX0308	25	1	22	0.250	44	0.200	33	0.150	56	0.275
		DRX0310	32	1.25	17	0.312	43	0.250	32	0.187	54	0.350
		DRX0312	38	1.5	14.5	0.375	43	0.300	32	0.225	57	0.440
		DRX0314	44	1.75	11.5	0.437	39	0.350	29	0.262	55	0.480
		DRX0316	51	2	10	0.500	40	0.400	30	0.300	54	0.600
		DRX0320	64	2.5	8	0.625	40	0.500	30	0.375	55	0.770
		DRX0324	76	3	6.5	0.750	39	0.600	29	0.450	55	0.920
		DRX0396	305	12	1.5	3.000	36	2.400	27	1.800	58	3.850
1/2 13mm	9/32 7mm	DRX0408	25	1	32	0.250	64	0.200	48	0.150	103	0.295
		DRX0410	32	1.25	24	0.312	60	0.250	45	0.187	97	0.360
		DRX0412	38	1.5	20	0.375	60	0.300	45	0.225	103	0.470
		DRX0414	44	1.75	17	0.437	60	0.350	45	0.262	99	0.530
		DRX0416	51	2	14	0.500	56	0.400	42	0.300	126	0.680
		DRX0420	64	2.5	11.5	0.625	56	0.500	42	0.375	102	0.800
		DRX0424	76	3	9	0.750	54	0.600	41	0.450	102	0.980
5/8 16mm	11/32 8.5mm	DRX0508	25	1	63	0.250	126	0.200	95	0.150	208	0.280
		DRX0510	32	1.25	47	0.312	117	0.250	88	0.187	187	0.340
		DRX0512	38	1.5	38	0.375	114	0.300	86	0.225	184	0.420
		DRX0514	44	1.75	32	0.437	112	0.350	84	0.262	181	0.490
		DRX0516	51	2	29	0.500	116	0.400	87	0.300	180	0.560
		DRX0520	64	2.5	22	0.625	110	0.500	83	0.375	195	0.780
		DRX0524	76	3	18	0.750	108	0.600	81	0.450	200	0.980
3/4 19mm	3/8 9.5mm	DRX0608	25	1	140	0.250	280	0.200	210	0.150	335	0.215
		DRX0610	32	1.25	110	0.312	275	0.250	206	0.187	340	0.300
		DRX0612	38	1.5	89	0.375	268	0.300	200	0.225	420	0.460
		DRX0614	44	1.75	75	0.437	264	0.350	198	0.262	350	0.460
		DRX0616	51	2	63.5	0.500	254	0.400	190	0.300	330	0.510
		DRX0620	64	2.5	50	0.625	250	0.500	188	0.375	355	0.710
		DRX0624	76	3	40.5	0.750	243	0.600	182	0.450	345	0.840
		DRX0628	89	3.5	34.5	0.875	242	0.700	181	0.525	360	1.040
		DRX0632	102	4	30	1.000	240	0.800	180	0.600	360	1.200
		DRX0648	152	6	19.5	1.500	234	1.200	176	0.900	380	1.850

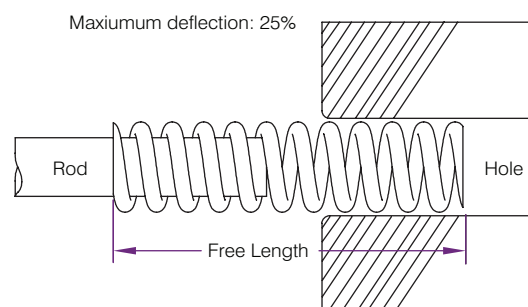


Silicone Chrome Die Springs

Raymond

Extra Heavy Duty

Colour - GREEN



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Max. Defl. 25% of Free Length	Defl. for Average life 20% of Free Length		Defl. for Average life 15% of Free Length		Total Travel to Solid	
			mm	in.		Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 26mm	1/2 12.5mm	DRX0812	38	1.5	184.8	0.375	555	0.300	416	0.225	632	0.342
		DRX0816	51	2	116	0.500	464	0.400	348	0.300	567	0.489
		DRX0820	64	2.5	89.6	0.625	448	0.500	336	0.375	571	0.637
		DRX0824	76	3	73.6	0.750	442	0.600	331	0.450	615	0.835
		DRX0828	89	3.5	62.4	0.875	437	0.700	328	0.525	613	0.982
		DRX0832	102	4	55.2	1.000	442	0.800	331	0.600	651	1.180
		DRX0840	127	5	43.2	1.375	432	1.000	324	0.750	659	1.526
		DRX0848	152	6	36	1.500	432	1.200	324	0.900	674	1.871
1 1/4 32mm	5/8 15.5mm	DRX1016	51	2	192	0.500	768	0.400	577	0.300	1002	0.522
		DRX1020	64	2.5	144	0.625	720	0.500	540	0.375	1045	0.726
		DRX1024	76	3	118.4	0.750	710	0.600	533	0.450	1102	0.931
		DRX1028	89	3.5	100.8	0.875	706	0.700	530	0.525	1144	1.135
		DRX1032	102	4	84	1.000	673	0.800	505	0.600	1075	1.280
		DRX1036	115	4.5	78.4	1.125	706	0.900	529	0.675	1164	1.485
		DRX1040	127	5	68	1.375	680	1.000	510	0.750	1149	1.689
		DRX1048	152	6	56	1.500	672	1.200	504	0.900	1142	2.039
1 1/2 38mm	3/4 19mm	DRX1216	51	2	376	0.500	1505	0.400	1128	0.300	1950	0.495
		DRX1220	64	2.5	294.4	0.625	1472	0.500	1104	0.375	1840	0.625
		DRX1224	76	3	231.2	0.750	1387	0.600	1040	0.450	1896	0.820
		DRX1228	89	3.5	196	0.875	1372	0.700	1029	0.525	1911	0.975
		DRX1232	102	4	171.2	1.000	1370	0.800	1027	0.600	2001	1.169
		DRX1236	115	4.5	148	1.125	1332	0.900	999	0.675	2017	1.363
		DRX1240	127	5	136	1.375	1360	1.000	1020	0.750	2118	1.557
		DRX1248	152	6	110.4	1.500	1325	1.200	994	0.900	2147	1.945
2 51mm	1 25mm	DRX1264	203	8	80.8	2.000	1293	1.600	970	1.200	2199	2.721
		DRX1620	64	2.5	381.6	0.625	1908	0.500	1431	0.375	2851	0.747
		DRX1624	76	3	312	0.750	1872	0.600	1404	0.450	2702	0.866
		DRX1628	89	3.5	254.4	0.875	1781	0.700	1336	0.525	2310	0.908
		DRX1632	102	4	220	1.000	1760	0.800	1320	0.600	2691	1.223
		DRX1636	115	4.5	188.8	1.125	1700	0.900	1274	0.675	2622	1.389
		DRX1640	127	5	172.8	1.250	1728	1.000	1296	0.750	2428	1.405
		DRX1648	152	6	141.6	1.500	1700	1.200	1275	0.900	2280	1.610
		DRX1664	203	8	100	2.000	1600	1.600	1200	1.200	2234	2.234
		DRX1680	254	10	84	2.500	1680	2.000	1260	1.500	2448	2.914
		DRX1696	305	12	71.2	3.000	1710	2.410	1282	1.800	3184	4.472



METRIC						
Length	M2	M3	M4	M5	M6	M8
5		UCAP3M05	UCAP4M05			
6		UCAP3M06	UCAP4M06	UCAP5M06		
8		UCAP3M08	UCAP4M08	UCAP5M08	UCAP6M08	
10		UCAP3M10	UCAP4M10	UCAP5M10	UCAP6M10	UCAP8M10
12	UCAP2M12	UCAP3M12	UCAP4M12	UCAP5M12	UCAP6M12	UCAP8M12
16		UCAP3M16	UCAP4M16	UCAP5M16	UCAP6M16	UCAP8M16
20		UCAP3M20	UCAP4M20	UCAP5M20	UCAP6M20	UCAP8M20
25		UCAP3M25	UCAP4M25	UCAP5M25	UCAP6M25	UCAP8M25
30		UCAP3M30	UCAP4M30	UCAP5M30	UCAP6M30	UCAP8M30
35		UCAP3M35	UCAP4M35	UCAP5M35	UCAP6M35	UCAP8M35
40			UCAP4M40	UCAP5M40	UCAP6M40	UCAP8M40
45			UCAP4M45	UCAP5M45	UCAP6M45	UCAP8M45
50			UCAP4M50	UCAP5M50	UCAP6M50	UCAP8M50
55				UCAP5M55	UCAP6M55	UCAP8M55
60				UCAP5M60	UCAP6M60	UCAP8M60
65				UCAP5M65	UCAP6M65	UCAP8M65
70				UCAP5M70	UCAP6M70	UCAP8M70
75					UCAP6M75	UCAP8M75
80				UCAP5M80	UCAP6M80	UCAP8M80
85						
90				UCAP5M90	UCAP6M90	UCAP8M90
95						
100					UCAP6M100	UCAP8M100
110					UCAP6M110	UCAP8M110
120					UCAP6M120	UCAP8M120
130						UCAP8M130
140					UCAP6M140	UCAP8M140
150						UCAP8M150
160						UCAP8M160
180						UCAP8M180
200						



METRIC					
Length	M10	M12	M14	M16	M18
10	UCAP10M10				
12	UCAP10M12	UCAP12M12			
16	UCAP10M16	UCAP12M16			
20	UCAP10M20	UCAP12M20			
25	UCAP10M25	UCAP12M25	UCAP14M25	UCAP16M25	
30	UCAP10M30	UCAP12M30	UCAP14M30	UCAP16M30	
35	UCAP10M35	UCAP12M35	UCAP14M35	UCAP16M35	
40	UCAP10M40	UCAP12M40	UCAP14M40	UCAP16M40	
45	UCAP10M45	UCAP12M45	UCAP14M45	UCAP16M45	
50	UCAP10M50	UCAP12M50	UCAP14M50	UCAP16M50	UCAP18M50
55	UCAP10M55	UCAP12M55	UCAP14M55	UCAP16M55	
60	UCAP10M60	UCAP12M60	UCAP14M60	UCAP16M60	
65	UCAP10M65	UCAP12M65	UCAP14M65	UCAP16M65	
70	UCAP10M70	UCAP12M70	UCAP14M70	UCAP16M70	
75	UCAP10M75	UCAP12M75	UCAP14M75	UCAP16M75	
80	UCAP10M80	UCAP12M80	UCAP14M80	UCAP16M80	
90	UCAP10M85	UCAP12M90	UCAP14M90	UCAP16M90	
100	UCAP10M90	UCAP12M100	UCAP14M100	UCAP16M100	
110	UCAP10M95	UCAP12M110	UCAP14M110	UCAP16M110	
120	UCAP10M100	UCAP12M120	UCAP14M120	UCAP16M120	
130	UCAP10M110	UCAP12M130	UCAP14M130	UCAP16M130	
140	UCAP10M120	UCAP12M140	UCAP14M140	UCAP16M140	
150	UCAP10M130	UCAP12M150	UCAP14M150	UCAP16M150	
160	UCAP10M140	UCAP12M160	UCAP14M160	UCAP16M160	
170	UCAP10M150	UCAP12M170	UCAP14M170	UCAP16M170	
180	UCAP10M160	UCAP12M180	UCAP14M180	UCAP16M180	
190	UCAP10M180	UCAP12M200	UCAP14M190	UCAP16M190	
200	UCAP10M200	UCAP12M220	UCAP14M200	UCAP16M200	
220		UCAP12M240	UCAP14M220	UCAP16M220	
230		UCAP12M250	UCAP14M230		
240		UCAP12M240		UCAP16M240	
250		UCAP12M250	UCAP14M250	UCAP16M250	
260				UCAP16M260	
280					
300			UCAP14M220	UCAP16M300	
320			UCAP14M240		
340			UCAP14M250		



METRIC						
Length	M20	M22	M24	M27	M30	M36
12						
16						
20						
25						
30	UCAP20M30					
35	UCAP20M35					
40	UCAP20M40		UCAP24M40			
45	UCAP20M45		UCAP24M45			
50	UCAP20M50		UCAP24M50			
55	UCAP20M55		UCAP24M55			
60	UCAP20M60		UCAP24M60			
65	UCAP20M65		UCAP24M65			
70	UCAP20M70		UCAP24M70			
75	UCAP20M75		UCAP24M75			
80	UCAP20M80		UCAP24M80	UCAP27M80	UCAP27M80	UCAP36M80
90	UCAP20M90		UCAP24M90	UCAP27M90	UCAP27M90	UCAP36M90
100	UCAP20M100		UCAP24M100	UCAP27M100	UCAP27M100	UCAP36M100
110	UCAP20M110	UCAP22M110	UCAP24M110	UCAP27M110	UCAP27M110	UCAP36M110
120	UCAP20M120		UCAP24M120	UCAP27M120	UCAP27M120	UCAP36M120
130	UCAP20M130	UCAP22M130	UCAP24M130		UCAP27M130	UCAP36M130
140	UCAP20M140		UCAP24M140	UCAP27M140	UCAP27M140	UCAP36M140
150	UCAP20M150		UCAP24M150	UCAP27M150	UCAP27M150	UCAP36M150
160	UCAP20M160		UCAP24M160		UCAP27M160	
180	UCAP20M180		UCAP24M180	UCAP27M180	UCAP27M180	UCAP36M180
200	UCAP20M200		UCAP24M200	UCAP27M200	UCAP27M200	UCAP36M200
220	UCAP20M220		UCAP24M220		UCAP27M220	
240			UCAP24M240		UCAP27M240	UCAP36M240
260	UCAP20M240		UCAP24M260		UCAP27M260	UCAP36M260
280			UCAP24M280		UCAP27M280	UCAP36M280
300	UCAP20M260		UCAP24M300		UCAP27M300	UCAP36M300
320	UCAP20M280		UCAP24M320		UCAP27M320	
340	UCAP20M300		UCAP24M340		UCAP27M340	
360					UCAP27M360	



BSW cap screws stocked

Some sizes available in Threads: UNC, UNF, BSF Sizes: 7/16, 7/8, 1 1/4, 1 1/2 also available

IMPERIAL					
Length	1/8	3/16	1/4	5/16	3/8
3/8	UCAP1838	UCAP31638	UCAP1438	UCAP51638	
1/2	UCAP1812	UCAP31612	UCAP1412	UCAP51612	UCAP3812
5/8		UCAP31658	UCAP1458	UCAP51658	UCAP3858
1/4		UCAP31614	UCAP1414		
3/4	UCAP1834	UCAP31634	UCAP1434	UCAP51634	UCAP3834
7/8			UCAP1478	UCAP51678	
1	UCAP181	UCAP3161	UCAP141	UCAP5161	UCAP381
1 1/4		UCAP316114	UCAP14114	UCAP516114	UCAP38114
1 1/2		UCAP316112	UCAP14112	UCAP51614	UCAP38112
1 3/4		UCAP316134	UCAP14134	UCAP516134	UCAP38134
2		UCAP3162	UCAP142	UCAP5162	UCAP382
2 1/4			UCAP14214	UCAP516214	UCAP38214
2 1/2		UCAP316212	UCAP14212	UCAP516212	UCAP38212
2 3/4			UCAP14234	UCAP516234	UCAP38234
3			UCAP143	UCAP5163	UCAP383
3 1/4			UCAP14314	UCAP516314	UCAP38314
3 1/2			UCAP14312	UCAP516312	UCAP38312
4			UCAP144	UCAP5164	UCAP384
4 1/2				UCAP516412	UCAP38412
5					UCAP385
5 1/2					UCAP38512
6					UCAP386



BSW cap screws stocked

Some sizes available in Threads: UNC, UNF, BSF Sizes: 7/16, 7/8, 1 1/4, 1 1/2 also available

IMPERIAL				
Length	1/2	5/8	3/4	1"
1/2		UCAP1258	UCAP1234	
5/8	UCAP1258			
3/4	UCAP1234			
1	UCAP121	UCAP581		
1 1/4	UCAP12114	UCAP58114	UCAP34114	
1 1/2	UCAP12112	UCAP58112	UCAP34112	UCAP1112
1 3/4	UCAP12134	UCAP58134	UCAP34134	
2	UCAP122	UCAP582	UCAP342	UCAP12
2 1/4	UCAP12214	UCAP58214	UCAP34214	
2 1/2	UCAP12212	UCAP58212	UCAP34212	UCAP1212
2 3/4	UCAP12234			
3	UCAP123	UCAP583	UCAP343	UCAP13
3 1/4	UCAP12314			
3 1/2	UCAP12312	UCAP58312	UCAP34312	UCAP1312
4	UCAP124	UCAP584	UCAP344	UCAP14
4 1/2	UCAP12412	UCAP58412	UCAP34412	
5	UCAP125	UCAP585	UCAP345	UCAP15
5 1/2	UCAP12512	UCAP58512	UCAP34512	
6	UCAP126	UCAP586	UCAP346	UCAP16
6 1/2	UCAP12612	UCAP58612	UCAP34612	
7	UCAP127	UCAP587	UCAP347	UCAP17
8	UCAP128	UCAP588	UCAP348	UCAP18
9			UCAP349	UCAP19



METRIC							
Length	Shoulder Dia.,(Thread Dia.)						
	6mm (M5)	8mm (M6)	10mm (M8)	12mm (M10)	16mm (M12)	20mm (M16)	24mm (M20)
10	USS6M10						
12	USS6M12	USS8M12	USS10M12				
16	USS6M16	USS8M16	USS10M16	USS12M16			
20	USS6M20	USS8M20	USS10M20	USS12M20	USS16M20		
25	USS6M25	USS8M25	USS10M25	USS12M25			
30	USS6M30	USS8M30	USS10M30	USS12M30	USS16M30		
35		USS8M35					
40	USS6M40	USS8M40	USS10M40	USS12M40	USS16M40	USS20M40	
50	USS6M50	USS8M50	USS10M50	USS12M50	USS16M50	USS20M50	USS24M50
60	USS6M60	USS8M60	USS10M60	USS12M60	USS16M60	USS20M60	USS24M60
70		USS8M70	USS10M70	USS12M70	USS16M70	USS20M70	USS24M70
80		USS8M80	USS10M80	USS12M80	USS16M80	USS20M80	USS24M80
90				USS12M90	USS16M90	USS20M90	USS24M90
100				USS12M100	USS16M100	USS20M100	USS24M100
120				USS12M120	USS16M120	USS20M120	USS24M120
140				USS12M140			



IMPERIAL						
Length	Thread BSW, UNC					
	1/4	5/16	3/8	1/2	5/8	3/4
3/8	USS1438	USS51638				
1/2	USS1412	USS51612	USS3812	USS1212		
5/8		USS51658	USS3858	USS1258		
3/4	USS1434	USS51634	USS3834	USS1234		
1	USS141	USS5161	USS381	USS121		
1 1/4	USS14114	USS516114	USS38114	USS12114	USS58114	
1 1/2	USS14112	USS516112	USS38112	USS12112	USS58112	USS34112
1 3/4		USS516134	USS38134	USS12134	USS58134	USS34134
2	USS142	USS5162	USS382	USS122	USS582	USS342
2 1/4		USS516214	USS38214	USS12214	USS58214	USS34214
2 1/2		USS516212	USS38212	USS12212	USS58212	USS34212
2 3/4			USS38234	USS12234	USS58234	USS34234
3			USS383	USS123	USS583	USS343
3 1/4			USS38314	USS12314		
3 1/2			USS38312	USS12312	USS58312	USS34312
4			USS384	USS124	USS584	USS344
4 1/2				USS12412	USS58412	USS34412
4 1/4				USS34414		
5				USS125	USS585	USS345
6						USS346



METRIC					
Length	Shoulder Dia.,(Thread Dia.)				
	M3	M4	M5	M6	M8
3	USET3M03				
4	USET3M04	USET4M4			
5	USET3M05	USET4M5	USET5M5		
6	USET3M06	USET4M6	USET5M6	USET6M6	
8	USET3M08	USET4M8	USET5M8	USET6M8	USET8M8
10	USET3M10	USET4M10	USET5M10	USET6M10	USET8M10
12	USET3M12	USET4M12	USET5M12	USET6M12	USET8M12
16	USET3M16	USET4M16	USET5M16	USET6M16	USET8M16
20		USET4M20	USET5M20	USET6M20	USET8M20
25		USET4M25	USET5M25	USET6M25	USET8M25
30			USET5M30	USET6M30	USET8M30
35				USET6M35	USET8M35
40				USET6M40	USET8M40
45				USET6M45	USET8M45
50				USET6M50	USET8M50

METRIC					
Length	Shoulder Dia.,(Thread Dia.)				
	M10	M12	M16	M20	M24
10	USET10M10				
12	USET10M12	USET12M12			
16	USET10M16	USET12M16	USET16M16		
20	USET10M20	USET12M20	USET16M20	USET20M20	
25	USET10M25	USET12M25	USET16M25	USET20M25	USET24M25
30	USET10M30	USET12M30	USET16M30	USET20M30	USET24M30
35	USET10M35	USET12M35	USET16M35	USET20M35	USET24M35
40	USET10M40	USET12M40	USET16M40	USET20M40	USET24M40
45	USET10M45	USET12M45	USET16M45		
50	USET10M50	USET12M50	USET16M50	USET20M50	USET24M50
60		USET12M60	USET16M60	USET20M60	USET24M60



IMPERIAL							
Length	Thread BSW, UNC						
	3/16	1/4	5/16	3/8	1/2	5/8	3/4
3/16	USET316316						
1/4	USET31614	USET1414	USET51614				
5/16		USET14516	USET516516	USET38516			
3/8		USET1438	USET51638	USET3838			
1/2	USET31612	USET1412	USET51612	USET3812	USET1212		
5/8			USET51658	USET3858	USET1258	USET5858	
3/4		USET1434		USET3834	USET1234	USET5834	USET3434
7/8					USET1278		
1		USET141	USET5161	USET381	USET121	USET581	USET341
1 1/4					USET12114	USET58114	
1 1/2			USET516112	USET38112	USET12112	USET58112	USET34112
1 3/4						USET58134	
2					USET122	USET582	USET342
2 1/2					USET12212		USET34212



METRIC					
Length	M3	M4	M5	M6	M8
6	UCS3M06				
8	UCS3M08	UCS4M08	UCS5M8		
10	UCS3M10	UCS4M10	UCS5M10	UCS6M10	UCS8M10
12	UCS3M12	UCS4M12	UCS5M12	UCS6M12	UCS8M12
16	UCS3M16	UCS4M16	UCS5M16	UCS6M16	UCS8M16
20	UCS3M20	UCS4M20	UCS5M20	UCS6M20	UCS8M20
25	UCS3M25	UCS4M25	UCS5M25	UCS6M25	UCS8M25
30	UCS3M30	UCS4M30	UCS5M30	UCS6M30	UCS8M30
35		UCS4M35	UCS5M35	UCS6M35	UCS8M35
40		UCS4M40	UCS5M40	UCS6M40	UCS8M40
45			UCS5M45	UCS6M45	UCS8M45
50			UCS5M50	UCS6M50	UCS8M50
55					UCS8M55
60					UCS8M60
70					UCS8M70

METRIC					
Length	M10	M12	M16	M20	M24
6					
8					
10	UCS10M12				
12	UCS10M16	UCS12M20			
16	UCS10M20				
20	UCS10M25	UCS12M25			
25	UCS10M30	UCS12M30	UCS16M30		
30	UCS10M35	UCS12M35	UCS16M35		
35	UCS10M40	UCS12M40	UCS16M40	UCS20M35	
40	UCS10M45	UCS12M45	UCS16M45		
45	UCS10M50	UCS12M50	UCS16M50	UCS20M45	
50	UCS10M55	UCS12M55	UCS16M55		
55	UCS10M60	UCS12M60	UCS16M60	UCS20M55	
60	UCS10M70	UCS12M70	UCS16M70	UCS20M60	UCS24M60
70	UCS10M80	UCS12M80	UCS16M80	UCS20M70	UCS24M70
80	UCS10M90	UCS12M90	UCS16M90	UCS20M80	UCS24M80
90	UCS10M100	UCS12M100	UCS16M100	UCS20M90	UCS24M90
100			UCS16M120	UCS20M100	UCS24M100
120			UCS16M140	UCS20M120	UCS24M124
140			UCS16M160	UCS20M140	UCS24M140
160					



IMPERIAL						
Length	3/16	1/4	5/16	3/8	1/2	5/8
3/8	UCS31638	UCS1438				
1/2	UCS31612	UCS1412	UCS51612	UCS3812		
5/8	UCS31658	UCS1458	UCS51658	UCS3858		
3/4	UCS31634	UCS1434	UCS51634	UCS3834	UCS1234	
1	UCS3161	UCS141	UCS5161	UCS381	UCS121	UCS581
1 1/4	UCS316114	UCS14114	UCS516114	UCS38114	UCS12114	
1 1/2	UCS316112	UCS14112	UCS516112	UCS38112	UCS12112	UCS58112
1 3/4		UCS14134	UCS516134	UCS38134	UCS12134	UCS58134
2		UCS142	UCS5162	UCS382	UCS122	UCS582
2 1/2		UCS14212	UCS516212	UCS38212	UCS12212	UCS58212
3				UCS383	UCS123	UCS583
3 1/2						UCS58312
4						UCS584



METRIC							
Length	M1.5	M2	M3	M4	M5	M6	M8
5	UD1.5M5						
6	UD1.5M6						
8	UD1.5M8			UD4M8			
10	UD1.5M10		UD3M10	UD4M10			
12	UD1.5M12		UD3M12	UD4M12	UD5M12	UD6M12	
15				UD4M15			
16			UD3M16		UD5M16	UD6M16	UD8M16
18			UD3M18				
20			UD3M20	UD4M20	UD5M20	UD6M20	UD8M20
24		UD2M24	UD3M24	UD4M24	UD5M24		
25			UD3M25	UD4M25	UD5M25	UD6M25	UD8M25
28		UD2M28	UD3M28		UD5M28		
30			UD3M30	UD4M30	UD5M30	UD6M30	UD8M30
32							
35				UD4M35	UD5M35	UD6M35	UD8M35
36				UD4M36	UD5M36		
40				UD4M40	UD5M40	UD6M40	UD8M40
45							
50				UD4M50	UD5M50	UD6M50	UD8M50
55							UD8M55
60						UD6M55	UD8M60
70						UD6M60	UD8M70

METRIC						
Length	M10	M12	M13	M16	M20	M22
20	UD10M20	UD12M20				
24	UD10M24	UD12M24				
25	UD10M25	UD12M25				
28	UD10M28	UD12M28				
30	UD10M30	UD12M30				
32	UD10M32	UD12M32	UD13M32			
35		UD12M35				
40		UD12M40	UD13M40	UD16M40		
45	UD10M40	UD12M45				
50		UD12M50		UD16M50	UD20M50	
55	UD10M50	UD12M55				
60		UD12M60		UD16M60	UD20M60	
70	UD10M60	UD12M70		UD16M70	UD20M70	UD22M70
80	UD10M70	UD12M80	UD13M80	UD16M80	UD20M80	
90	UD10M80	UD12M90		UD16M90		
100	UD10M100	UD12M100	UD13M100	UD16M100	UD20M100	
120			UD13M120		UD20M120	



METRIC							
Length	M6	M8	M10	M12	M13	M16	M20
20	UDT6M20	UDT8M20					
24	UDT6M24						
25		UDT8M25	UDT10M25				
28			UDT10M28				
30	UDT6M30	UDT8M30	UDT10M30	UDT12M30			
32			UDT10M32	UDT12M32			
35	UDT6M35	UDT8M35					
36	UDT6M36	UDT8M36	UDT10M36				
40	UDT6M40	UDT8M40	UDT10M40	UDT12M40		UDT16M40	
45				UDT12M45		UDT16M45	
50	UDT6M50	UDT8M50	UDT10M50	UDT12M50	UDT13M50	UDT16M50	UDT20M50
55							
60		UDT8M60	UDT10M60	UDT12M60		UDT16M60	UDT20M60
70			UDT10M70	UDT12M70		UDT16M70	
80			UDT10M80	UDT12M80		UDT16M80	UDT20M80
90						UDT16M90	UDT20M90
100						UDT16M100	UDT20M100
120		UDT8M120					UDT20M120



IMPERIAL						
Length	1/8	3/16	1/4	5/16	3/8	1/2
3/8	UD1838					
1/2	UD1812	UD31612	UD1412	UD51612	UD3812	
5/8	UD1858	UD31658				
3/4	UD1834	UD31634	UD1434	UD51634	UD3834	UD1234
1	UD181	UD3161	UD141	UD5161	UD381	UD121
1 1/4	UD18114	UD316114	UD14114	UD516114	UD38114	UD12114
1 1/2	UD18112	UD316112	UD14112	UD516112	UD38112	UD12112
1 3/4	UD18134	UD316134	UD14134	UD516134	UD38134	UD12134
2	UD182	UD3162	UD142	UD5162	UD382	UD122
2 1/2			UD14212	UD516212	UD38212	UD12212
2 1/4				UD516214	UD38214	UD12214
3				UD5163	UD383	UD123
3 1/2						UD12312
4						UD124



Steel Pressure Plugs - BSPT

Product Code	Thread Size	Height
UPLUG18	1/8	0.382
UPLUG14	1/4	0.503
UPLUG38	3/8	0.559
UPLUG12	1/2	0.691
UPLUG58	5/8	0.731
UPLUG34	3/4	0.815
UPLUG1	1	0.998
UPLUG114	1 1/4	1.250

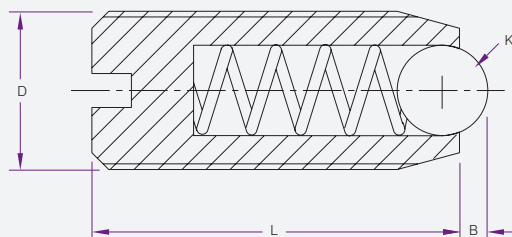


Brass Pressure Plugs - BSPT

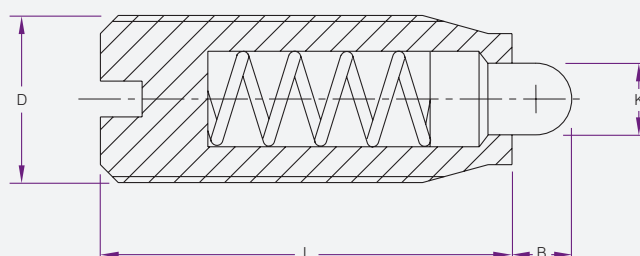
Product Code	Thread Size	Height
PP10	1/8	0.315
PP20	1/4	0.393
PP40	3/8	0.393
PP60	1/2	0.393
PP80	3/4	0.531
PP100	1	0.656

Brass Pressure Plugs - NPT

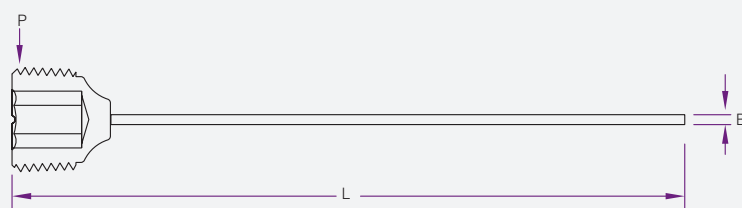
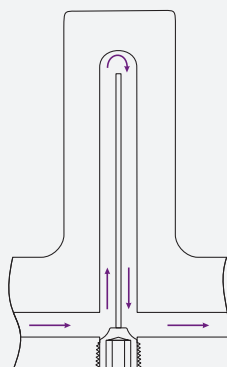
Product Code	Thread Size	Height
CBP05	1/16	0.250
CBP10	1/8	0.250
CBP20	1/4	0.406
CBP40	3/8	0.406
CBP60	1/2	0.531
CBP80	3/4	0.531
CBP100	1	0.656



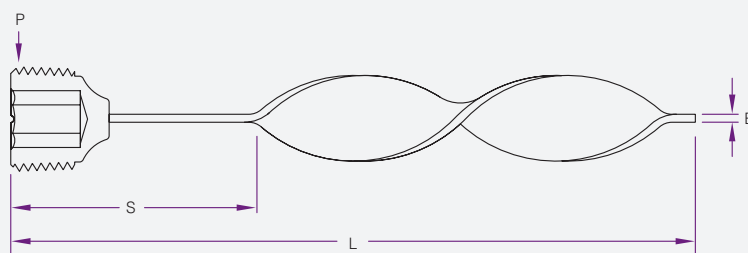
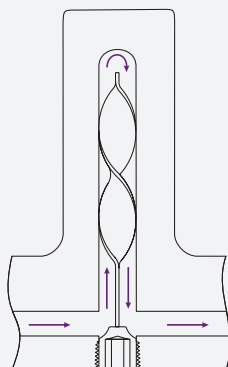
Product Code	D	K	B	L
RAM04	M4	2.5	0.8	9
RAM05	M5	3	0.9	12
RAM06	M6	3.5	1	14
RAM08	M8	5	1.5	16
RAM10	M10	6	2	19
RAM12	M12	8	2.5	22
RAM16	M16	10	3.5	24



Product Code	D	K	B	L
RAM04	M4	1.5	1.5	15
RAM05	M5	2.4	2.3	18
RAM06	M6	2.7	2.5	20
RAM08	M8	3.5	3	22
RAM10	M10	4	3	22
RAM12	M12	6	4	28
RAM16	M16	7.5	5	32



Product Code	P NPT Plug Size	L Length	B Blade Thickness	Blade -.005 Width -.015
CSB116X4	1/16	4	1/4	1/4
CSB116X8	1/16	8	1/4	1/4
CSB1X18	1	18	1 1/8	1 1/8
CSB1X24	1	24	1 1/8	1 1/8
CSB12X8	1/2	8	11/16	11/16
CSB12X16	1/2	16	11/16	11/16
CSB14X5	1/4	5	7/16	7/16
CSB14X10	1/4	10	7/16	7/16
CSB18X4	1/8	4	5/16	5/16
CSB18X8	1/8	8	5/16	5/16
CSB34X12	3/4	12	15/16	15/16
CSB34X20	1/8	20	15/16	15/16
CSB38X6	1	6	9/16	9/16
CSB38X12	1	20	9/16	9/16



Spiral lengthens the cooling path and keeps baffle centred, providing up to 11% greater flow rate.

Product Code	P NPT Plug Size	L Length	S Straight Length	B Blade Thickness	Blade $\pm .005$ Width $\pm .015$
CTB16X4	1/16	4	2	1/16	1/4
CTB16X8	1/16	8	4	1/16	1/4
CTB18X4	1/8	4	2	1/16	5/16
CTB18X8	1/8	8	4	1/16	5/16
CTB14X5	1/4	5	2	3/32	7/16
CTB14X10	1/4	10	4	3/32	7/16
CTB38X6	3/8	6	2	3/32	9/16
CTB38X12	3/8	12	4	3/32	9/16
CTB12X8	1/2	8	3	3/32	11/16
CTB12X16	1/2	16	5	3/32	11/16
CTB34X12	3/4	12	4	1/8	15/16
CTB34X20	3/4	20	6	1/8	15/16
CTB1X16	1	16	5	1/8	1 1/8
CTB1X24	1	24	8	1/8	1 1/8

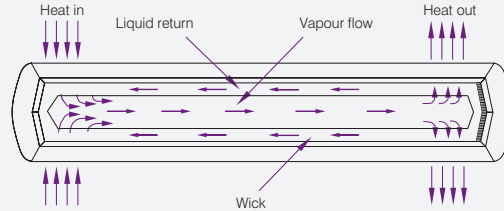
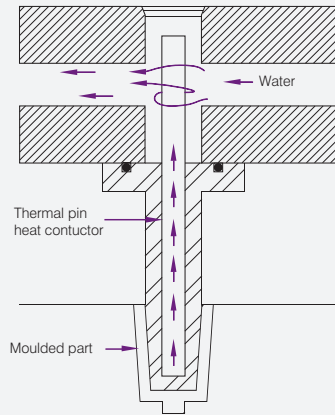


Heat Transfer Rods are designed to heat or cool cones, slides and inserts.

Heat Transfer Rods conduct temperature over 10,000 times faster than copper.

Heat Transfer Rods operate best when 50% of the overall length is cooled using a water flow. +0.1 to +0.2mm should be up on the rod diameter for the correct fitment. Fitment hole should be drilled.

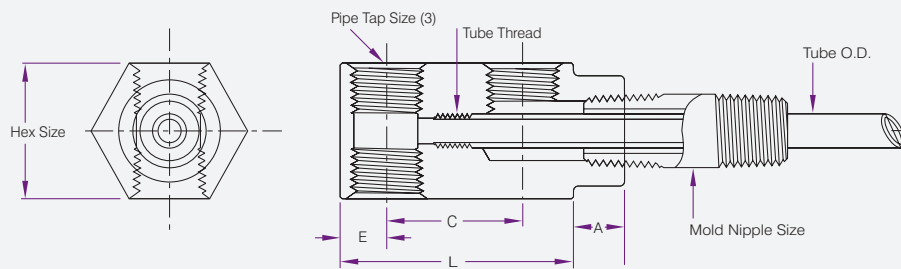
Metric Type									
L mm	2mm	2.5mm	3mm	4mm	5mm	6mm	8mm	10mm	12mm
50	HTR-02050	HTR-025050	HTR-03050	HTR-04050	HTR-05050	HTR-06050	HTR-08050		
55	HTR-02055		HTR-03055	HTR-04055	HTR-05055	HTR-06055			
60	HTR-02060		HTR-03060	HTR-04060	HTR-05060	HTR-06060	HTR-08060		
65	HTR-02065		HTR-03065	HTR-04065	HTR-05065	HTR-06065	HTR-08065		
70	HTR-02070		HTR-03070	HTR-04070	HTR-05070	HTR-06070	HTR-08070		
75	HTR-02075	HTR-025075	HTR-03075	HTR-04075	HTR-05075	HTR-06075	HTR-08075		
80	HTR-02080		HTR-03080	HTR-04080	HTR-05080	HTR-06080			
85	HTR-02085		HTR-03085	HTR-04085	HTR-05085	HTR-06085	HTR-08085		
90	HTR-02090		HTR-03090	HTR-04090	HTR-05090	HTR-06090			
95	HTR-02095		HTR-03095	HTR-04095	HTR-05095	HTR-06095	HTR-08095		
100	HTR-02100		HTR-03100	HTR-04100	HTR-05100	HTR-06100	HTR-08100		
105	HTR-02105		HTR-03105	HTR-04105	HTR-05105	HTR-06105	HTR-08105		
110	HTR-02110		HTR-03110	HTR-04110	HTR-05110	HTR-06110			
115	HTR-02115		HTR-03115	HTR-04115	HTR-05115	HTR-06115	HTR-08115		
120	HTR-02120		HTR-03120	HTR-04120	HTR-05120	HTR-06120			
125	HTR-02125		HTR-03125	HTR-04125	HTR-05125	HTR-06125	HTR-08125	HTR-10125	
135	HTR-02135		HTR-03135	HTR-04135	HTR-05135	HTR-06135			
140						HTR-06140			
145	HTR-02145		HTR-03145	HTR-04145	HTR-05145	HTR-06145	HTR-08145		
150				HTR-04150	HTR-05150				
155	HTR-02155		HTR-03155	HTR-04155	HTR-05155	HTR-06155			
160									HTR-12160
165			HTR-03165	HTR-04165	HTR-05165	HTR-06165	HTR-08165		
175			HTR-03175						
185			HTR-03185	HTR-04185	HTR-05185	HTR-06185	HTR-08185		
205			HTR-03205	HTR-04205	HTR-05205	HTR-06205	HTR-08205		



Imperial Type			
Length Inch	1/2	1/4	3/16
4"	HTR-124		
6"		HTR-146	HTR-3166
12"		HTR-1412	

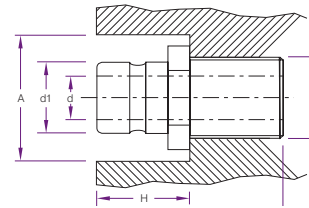
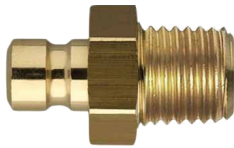
Cascade Assemblies

COOLING PRODUCTS



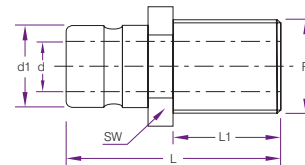
Hales Cascade Assemblies include a brass head, 12" brass tube, 2" long galvanized pipe nipple and brass pipe plug.

Product Code	Mould Nipple (NPT)	Pipe Tap Size (NPT)	Brass Tube O.D.	Hex Size	E	C	A	L
CM16N	1/8	1/16	3/16	3/4	7/32	1/2	9/32	15/16
CM186N	1/8	1/8	3/16	7/8	21/64	11/16	9/32	1 11/32
CM181N	1/8	1/8	3/16	7/8	21/64	1	9/32	1 21/32
CM146N	1/4	1/8	1/4	1	21/64	11/16	7/32	1 11/32
CM146N-4	1/4	1/4	1/4	1	21/64	11/16	7/32	1 11/32
CM141N	1/4	1/8	1/4	1	21/64	1	7/16	1 21/32
CM141N-1	1/4	1/4	1/4	1	21/64	1	7/16	1 21/32
CM381N	3/8	1/8	5/16	1	11/32	1	13/32	1 11/16
CM381N-4	3/8	1/4	5/16	1	11/32	1	13/32	1 11/16
CM121N-4	1/2	1/4	7/16	1 1/4	13/32	1	9/16	1 13/16
CM341N-4	3/4	3/8	5/8	1 1/2	1/2	1 1/4	3/4	2 1/4

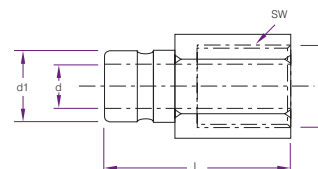


*Also available with internal valve, specify "V".

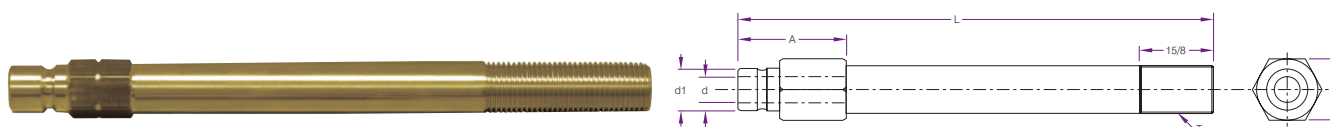
Product Code	Series	R (BSPT)	d1	d	H	A	L
CM251	200 Series	1/8	9.5	6	17	22	25
CM252		1/4	9.5	6	19	26	29
CM253		3/8	9.5	6	19	30	30
CM351	300 Series	1/8	13.5	6	25	26	35
CM352*		1/4	13.5	9	25	26	35
CM353*		3/8	13.5	9	26	30	38
CM354	500 Series	1/2	13.5	9	28	37	42
CM552		1/4	20	9	37	30	41
CM553		3/8	20	12	37	32	41
CM554		1/2	20	15	38	32	39
CM556		3/4	20	15	38	38	45



Product Code	Series	R (BSPT)	d1	d	L	L1	SW
CMT251	200 Series	1/8	9.5	6	24	9	13
CMT252		1/4	9.5	6	29	12	17
CMT253		3/8	9.5	6	30	12	19
CMT352	300 Series	1/4	13.5	9	34	12	17
CMT353		3/8	13.5	9	34	12	19
CMT354		1/2	13.5	9	39	17	24
CMT554	500 Series	1/2	20	15	44	17	22
CMT556		3/4	20	15	45	19	29



Product Code	Series	R (BSPT)	d1	d	L	SW
CM251F	200 Series	1/8	9.5	6	28	13
CM252F		1/4	9.5	6	32	17
CM253F		3/8	9.5	6	34	19
CM352F	300 Series	1/4	13.5	9	37	17
CM353F		3/8	13.5	9	39	19
CM354F		1/2	13.5	9	46	24



200 Series 1/4 Flow

Product Code	L	T	d1	d	A
CM251212	2 1/2	1/8	9.5	6	11/16
CM2514	4	1/8	9.5	6	1
CM251512	5 1/2	1/8	9.5	6	1
CM2517	7	1/8	9.5	6	1
CM251812	8 1/2	1/8	9.5	6	1
CM252212	2 1/2	1/4	9.5	6	7/8
CM2524	4	1/4	9.5	6	1 1/4
CM252512	5 1/2	1/4	9.5	6	1 1/4
CM2527	7	1/4	9.5	6	1 1/4
CM252812	8 1/2	1/4	9.5	6	1 1/4
CM253212	2 1/2	3/8	9.5	6	1
CM2534	4	3/8	9.5	6	1 1/4
CM253512	5 1/2	3/8	9.5	6	1 1/4
CM2537	7	3/8	9.5	6	1 1/4

300 Series 3/8 Flow

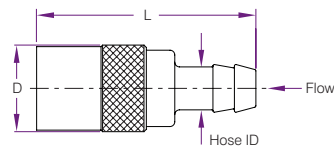
Product Code	L	T	d1	d	A
CM351212	2 1/2	1/8	15.5	9	7/8
CM3514	4	1/8	15.5	9	1
CM351512	5 1/2	1/8	15.5	9	1
CM3517	7	1/8	15.5	9	1
CM351812	8 1/2	1/8	15.5	9	1
CM352212	2 1/2	1/4	15.5	9	7/8
CM3524	4	1/4	15.5	9	1 1/4
CM352512	5 1/2	1/4	15.5	9	1 1/4
CM3527	7	1/4	15.5	9	1 1/4
CM352812	8 1/2	1/4	15.5	9	1 1/4
CM35210	10	1/4	15.5	9	1 1/4
CM3534	4	3/8	15.5	9	1
CM353512	5 1/2	3/8	15.5	9	1 1/4
CM3537	7	3/8	15.5	9	1 1/4
CM35310	10	3/8	15.5	9	1 1/4

Replacement Seals

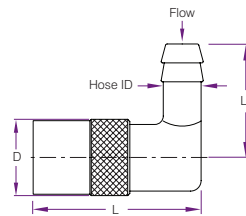
COOLING PRODUCTS



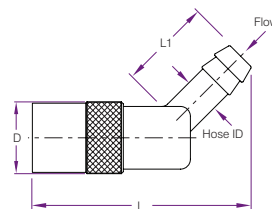
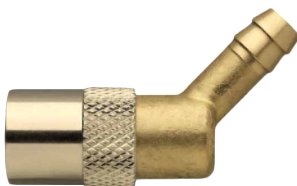
Product Code	Series	Material
CM200	200	Viton
CM300-G	300	Viton
CM300-R	300	Silicone
CM500	500	Silicone



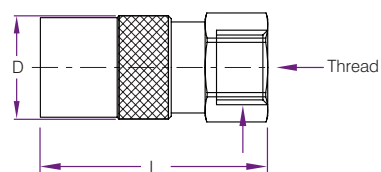
Product Code without Valve	Product Code with Valve	Hose ID	L	D	Series
CM206	CM206V	3/8	51mm	17	200
CM306	CM306V	3/8	64mm	23	300
CM308	CM308V	3/8	66.5mm	23	300
CM308SL	CM308VSL	3/8	73mm	23	300
CM506	CM506V	3/8	89mm	30	309



Product Code without Valve	Product Code with Valve	Hose ID	L	L1	D	Series
CM216	CM216V	3/8	40mm	22mm	17	200
CM318	CM318V	3/8	56mm	28.5mm	23	300
CM516	CM516V	3/8	77mm	32mm	30	500



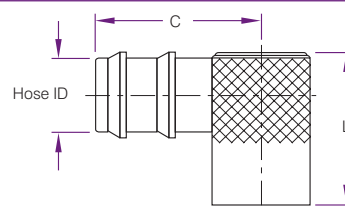
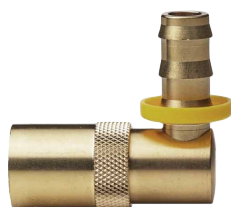
Product Code without Valve	Product Code with Valve	Hose ID	L	L1	D	Series
CM226	CM226V	3/8	55.5mm	22mm	18	200
CM328	CM328V	3/8	75mm	25mm	24	300
CM526	CM526V	3/8	77mm	30mm	32	500



Product Code without Valve	Product Code with Valve	Thread	L	D	Series
CMB200		1/4	40	18	200
CMB300	CMB300V	1/4	47	23	300
CMB500		1/2	52	30	500

Quick Connect Water Jumpers

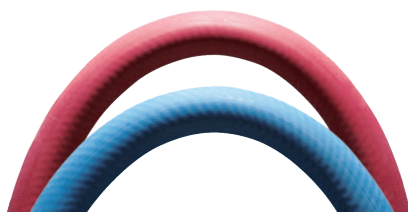
COOLING PRODUCTS



Product Code without Valve	Hose ID	L	C
WJ200-6	3/8	1	1 1/4
WJ300-6	9.5	1 7/16	1 9/16
WJ300-8	9.5	1 7/16	1 9/16

Water Hose

COOLING PRODUCTS



Crimping Service: Hose crimped to order
Rated +140°C Max 15 bar

Product Code	Hose ID	OD	Roll	Colour	Pressure
TFW10B	10	17.5	50m	Blue	max. 15 bar
TFW10R	10	17.5	50m	Red	max. 15 bar
TFW13B	13	21	50m	Blue	max. 15 bar
TFW13R	13	21	50m	Red	max. 15 bar

ACCESSORIES

Tool & Die Parts Cleaner



A heavy duty formulation designed to clean injection mould, tools and dies after production runs and prior to commencement of new jobs.

Product Code	Size
DIE CLEANER	400g Aerosol

ACCESSORIES

Tool & Die Protector



A heavy duty formulation designed to protect tools, injection moulds and dies from oxidation and rusting during storage in between production runs.

Pentrate tools and mould removes moisture from cavities and mould. Leaves a protective film of lubrication oils and a rust preventative coating.

Product Code	Size
DIE PROTECTOR	400g Aerosol

ACCESSORIES

Silicone Mould Release



A proven release agent to prevent sticking in mould cavities

Product Code	Size
SILICONE MOULD	400g Aerosol

ACCESSORIES

Paintable Mould Release



A premium quality release agent which enables plastic parts to be printed, painted, hot stamped, vacuum plated and metalised

Product Code	Size
PAINTABLE MOULD	400g Aerosol



Zap-Ox Stain Remover.
Removes all rust, oxidation, buildup, stains, weld discoloration and more.

Product Code	Size
NANO-ZO-16	475ml Bottle

Ceramic Extreme Anti Seize Paste

ACCESSORIES



A high-temperature anti-seizing compound with high thermal conductivity for cartridge heaters and nozzle threads.

Product Code	Size
Antiseize-500	500g Tin

Foodmax Grade Cleaner Degreaser Spray
Foodmax Clean Spray

ACCESSORIES



Foodmax Clean Spray is a food grade cleaner degreaser. This non-toxic formulation has been formulated to effectively clean grease and oil residue, formulated from a citrus oil derivative which is non-toxic, non-caustic, biodegradable and can be used safely with minimal protective equipment.

Product Code	Size
FM-CLEANSPRAY-040	400g Aerosol

Food Grade Chain Spray
Foodmax Multi Spray

ACCESSORIES



Foodmax Multi Spray is a totally waterproof tacky chain spray that contains food grade synthetic fluid and PTFE lubricant that endures aggressive environments and create a strong shear-stable lubrication film. Suitable for a broad range of applications including chains, conveyers, slides, joints, etc.

Product Code	Size
FM-MULTISPRAY-040	400g Aerosol

ACCESSORIES

Food Grade Penetrating Spray Foodmax DWF Spray



Foodmax DWF spray is a non-toxic lubricating, penetrating and de-watering lubricant and is ideal for use on lightly loaded chains, bearings and slides in food and clean environments. Working temperature -30°C to 145°C.

Product Code	Size
FM-DWFSPRAY-040	400g Aerosol

ACCESSORIES

Food Grade Silicone Spray Foodmax Silicone Spray



A food grade, silicone based, anti-adherent and lubricating fluid with a very high temperature resistance. Great for packaging transport lines and for low load applications. Also suitable as anti adherent for any type of equipment, demoulding of all type of plastics and rubbers and surface polisher.

Product Code	Size
FM-SILICONESPRAY-040	400g Aerosol

ACCESSORIES

Food Grade Grease CAS Spray Foodmax Grease CAS



H-1 approved for use in food processing equipment where incidental contact with food may occur. They are designed to provide superior performance at low and elevated temperatures (-40°C~200°C) and during periods of infrequent lubrication in food processing applications. Foodmax Grease CAS can be used for general lubrication, slide ways, chains and high load bearings in the food industry.

Product Code	Pack Description
FM-CASSPRAY-040	400g Aerosol

ACCESSORIES

Food Grade Lubricating White Oil Spray Foodmax Easy Spray



Foodmax Easy Spray can be used as a general lubricant as a non sticky chain oil, bearings and slides with low load, a food grade mould release, hinges and as a cleaning and conserving agent for stainless steel. Foodmax Easy Spray can be used as a food grade mould release oil as well.

Product Code	Size
FM-EASYSpray-040	400g Aerosol



Foodmax Clean E Spray is a powerful, fast drying cleaner, ideal for cleaning electronic equipment and components in and around food processing areas, such as control panels, electric motors, electrical contacts and switches.

Product Code	Size
FM-CLEANESPRAY-040	400g Aerosol

Nano Mould Coating

ACCESSORIES



Releases plastic parts for up to 300,000 cycles, part design dependant. Reduces cycle times, semi permanent.

Product Code
NANO-FG-10ML-KIT

CRC 5.56 Multi Spray

ACCESSORIES



The professionals choice. CRC 5.56 multipurpose product has superior penetrating power, that breaks through rust and corrosion while it cleans away scale and dirt.

Also available in 175gm, 500m, 1litre, 200 litres

Product Code	Size
CRC-5.56CAN	400g Aerosol
CRC-5.564LT	4 Litre Pail
CRC-5.5620LT	20 Litre Drum

Oil Absorbant Clay

ACCESSORIES



All purpose spill absorber, made from 100% absorbant granules which are effective at absorbing spills and liquids.

Environmentally safe and easy to use 20kg bags.

Product Code	Size
Halesabsorbclay	20 KG



Extremely good absorption ability and capacity for all types of organic fluids, i.e. motor oils, hydraulic oils, gear oils, organic solvents, diesel oil, petrol, etc.

Product Code	Sheet Size	Pack Qty
FG-OILSHEET 100	40cm x 50cm	100 Sheets



The ultimate PTFE paste for the assembly of injection mould tools, it also provides excellent anti seize on many types of moving parts.

Product Code	Size
PROLON-250G	Prolon 250g Tube
PROLON-500G	Prolon 500ml Tub
PROLON-20KG	Prolon 20kg Tub



Food Grade Anti-Seize Assembly Paste

White, non-toxic, grease-like compound designed for use as an assembly lubricant for lubrication bushes, sliding surfaces and small open plastic or metal gears and anti-seize compound for threaded fasteners, to prevent damage during start up and protect against premature wear during the running-in period.

Product Code	Size
FM-ASSEMBLYPASTE-0125	125g Tube
FM-ASSEMBLYPASTE-003	3kg Tub
FM-ASSEMBLYPASTE-018	18kg Tub



The tipped radius cutter ensures a smooth, precise fit between your machine nozzle and the sprue.

Product Code	Size (Radius)	Material
SRC48	3/4"	HSS

Sprue Reamers

ACCESSORIES

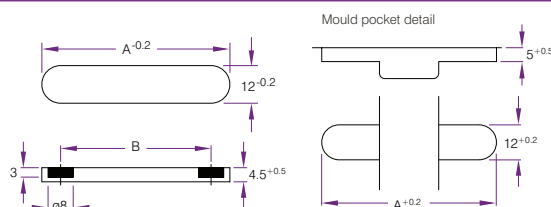


Sprue Reamers suitable for both machine and hand use are made from High Speed Steel (HSS) and are of 6 flute left hand slow spiral design with a 1/2" diameter parallel shank.

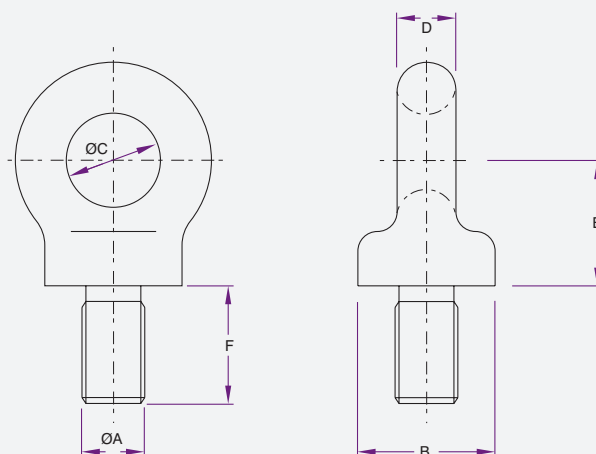
Product Code	Taper Degrees	Flute			Overall Length
		Small Dia.	Large Dia.	Length	
CRS1202	2	.120"	.300"	5"	7"
CRS1203	3	.120"	.390"	5"	7"
CRS1204	4	.120"	.470"	5"	7"
CRS1205	5	.120"	.560"	5"	7"
CRS1802	2	.180"	.430"	7"	9"
CRS1803	3	.180"	.550"	7"	9"
CRS1804	4	.180"	.670"	7"	9"

Cable Retainers

ACCESSORIES

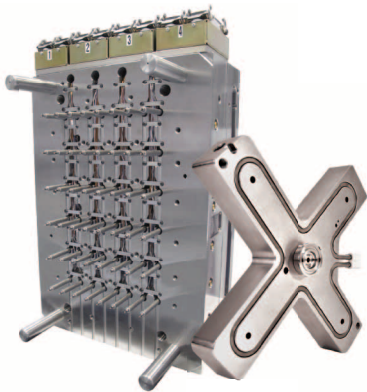


Product Code	A	B	Material	Max. Temperature
SC.401245	40	28	Nylon	80°C
SC.601245	60	48	Nylon	80°C



Metric						
Product Code	AØ	B	CØ	D	E	F
EYE10	M10	21	14	9	20	18
EYE12	M12	28	19	11	25	23
EYE16	M16	35	24	15	32	30
EYE20	M20	42	29	16	37	40
EYE22	M22	50	33	20	44	41
EYE24	M24	57	38	22	51	46
EYE30	M30	71	48	28	66	50
EYE33	M33	71	48	28	65	50
EYE38	M38	86	55	33	75	66
EYE39	M39	86	55	33	75	66
EYE42	M42	102	66	40	92	77
EYE48	M48	115	72	49	102	89
EYE56	M56	143	95	56	127	111
EYE64	M64	143	95	56	127	111
EYE76	M76	163	106	66	144	125

Imperial						
Product Code	AØ	B	CØ	D	E	F
EYEI24	3/8"	21	14	9	20	18
EYEI32	1/2"	28	19	11	25	23
EYEI40	5/8"	35	24	15	32	30
EYEI48	3/4"	42	29	16	37	40
EYEI56	7/8"	50	33	20	44	41
EYEI64	1"	57	38	22	51	46



Mastip™ recognises that the manifold is a vital part of the complete Hot Runner System and therefore designs every system to meet customer's requirements including detailed designs for:

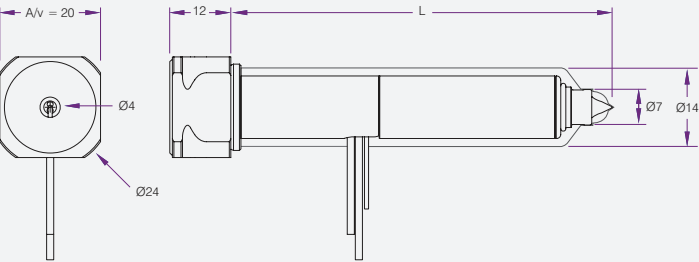
- Even part/cavity filling
- Balanced material flow
- Even heat profile
- Ideal for technical materials and fast colour changes

From single cavity to high cavity or multi material, thermal or valve gating, we can supply a system to suit your requirements.



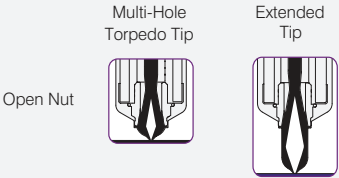
MJ Nozzles - Multi Cavity Only

HOT RUNNER & CONTROL

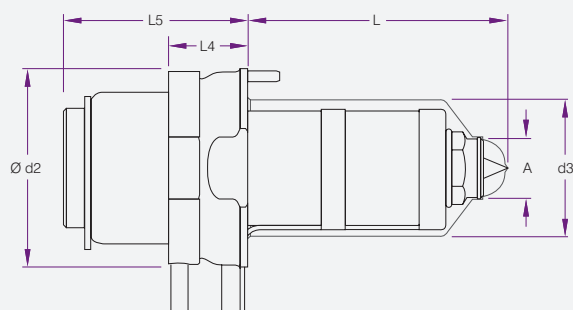


Only suitable for manifold applications

Gating Options

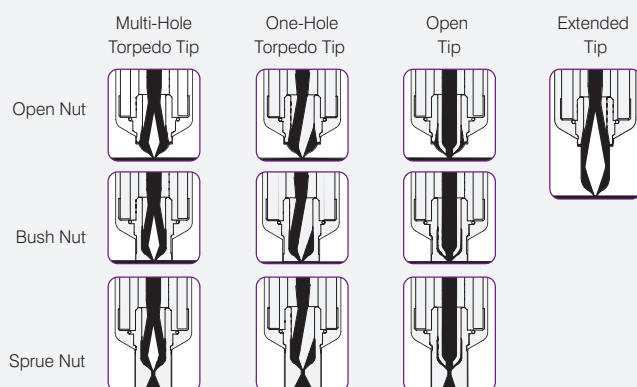


	Description
L	75
	95
	115
	130
	145
	175

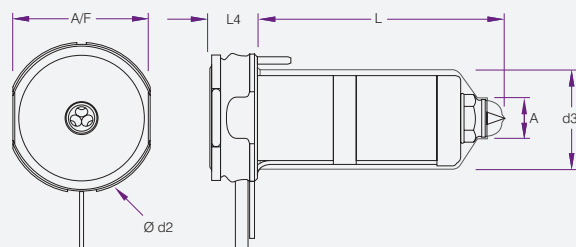


With two heaters the SX nozzle is perfectly suited for all single nozzle applications. Independently controlled heater zones provide uniform temperature distribution along the length of the nozzle, making it ideal to process difficult plastics.

Gating Options

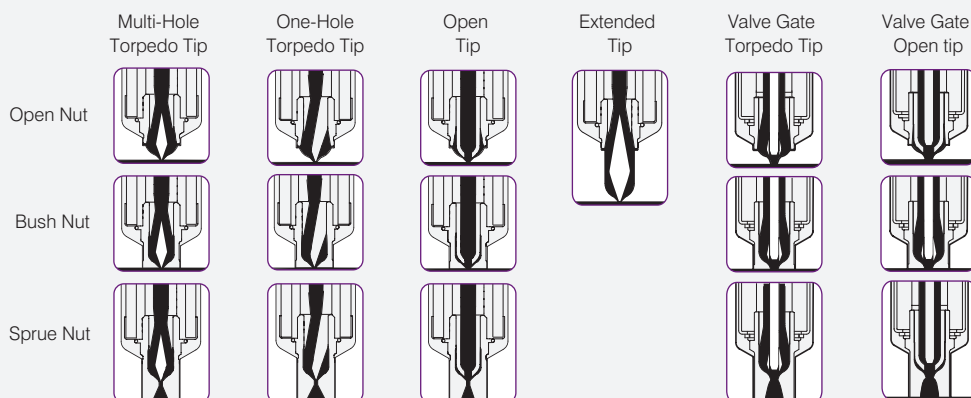


	13 Series	16 Series	19 Series	27 Series
L	45	45		
	55	55	55	
	65	65	65	
	75	75	75	75
	95	95	95	95
	115	115	115	115
			145	145
			175	175
				225
				275
L4	18	18	20	25
L5	44	44	46	50
d2	40	40	50	50
d3	27	30	33	43
A	10	12	15	23

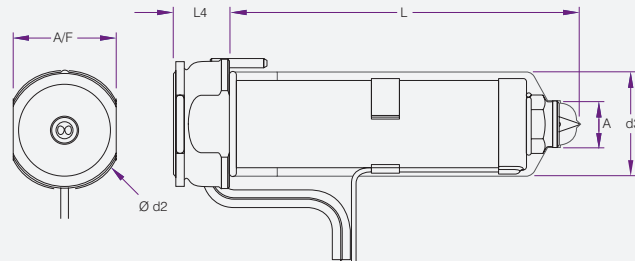


BX nozzle is designed to provide a cost sensitive solution to single & multicavity applications.

Gating Options

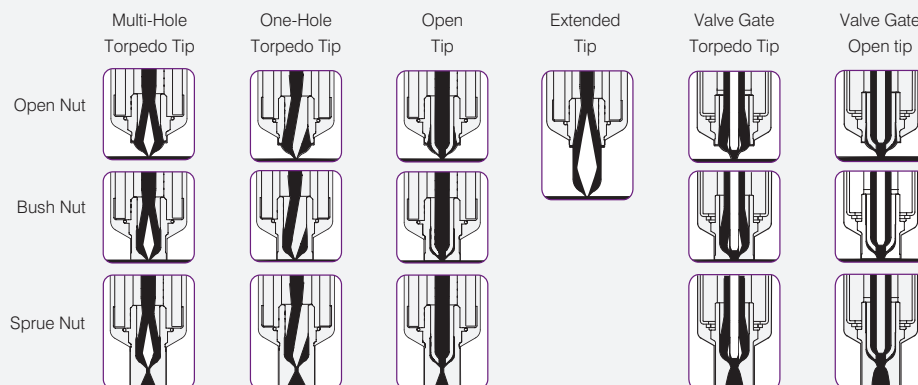


	13 Series	16 Series	19 Series	27 Series
L	45	45		
	55	55	55	
	65	65	65	
	75	75	75	75
	95	95	95	95
	115	115	115	115
	145	145	145	145
	175	175	175	175
				225
A	10	12	15	23
A/F	31	34	36	45
d2	34	38	40	50
d3	27	30	33	43
L4	12	12	15	20



Low moulding temperature and pressure, excellent temperature consistency and front loading capabilities, that's the Mastip MX nozzle, specifically designed for multi cavity manifold systems and hot halves. The MX nozzle is suited for small to medium applications in all types of markets. It is able to process a wide range of plastics, from the easy ethylenes to tough engineering resins.

Gating Options

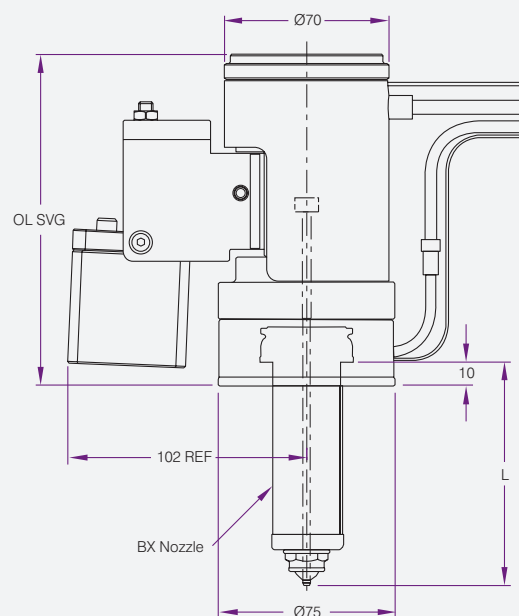
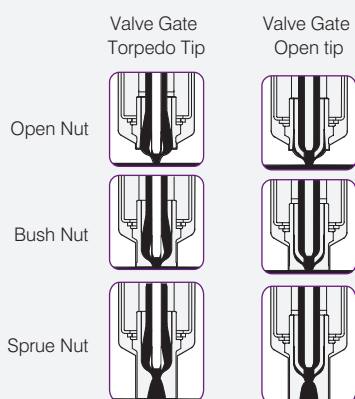


	13 Series	16 Series	19 Series
L	45	45	
	55	55	55
	65	65	65
	75	75	75
	95	95	95
	115	115	115
	145	145	145
	175	175	175
A/F	24	26	36
d2	28	30	40
d3	22.9	24.9	31.5
L4	12	12	15
A	10	12	15



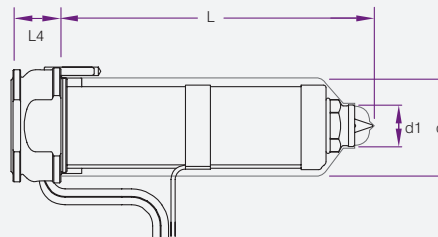
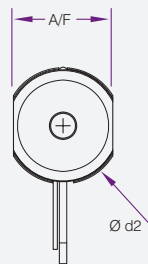
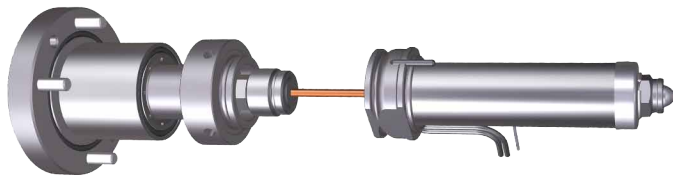
SVG Single Inline Air Actuated
Valvegate Assembly

Gating Options

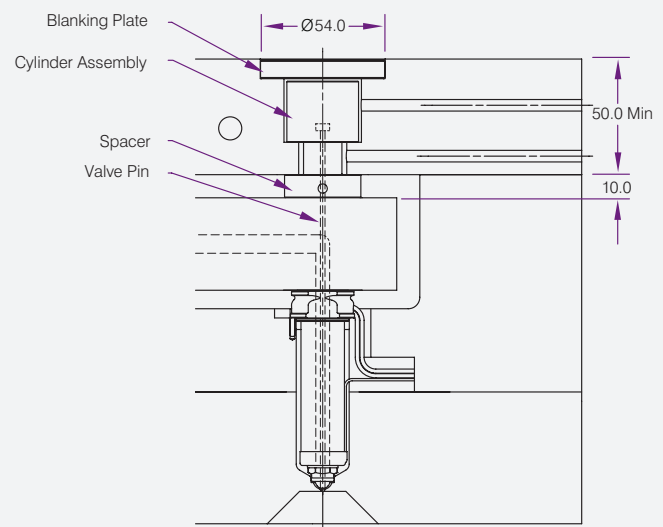
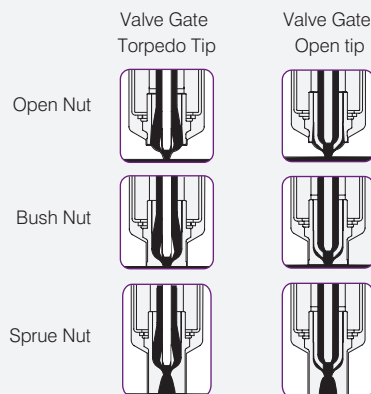


Nozzle Compatibility			
	16 Series	19 Series	27 Series
L	55	55	
	65	65	
	65	65	65
	75	75	75
	95	95	95
	115	115	115
	145	145	145

Valve Gate Compatibility			
	16 Series BX	19 Series BX	27 Series BX
Model	SVG 33	SVG 33	SVG 33
Actuation Type	Pneumatic	Pneumatic	Pneumatic
Pin Size	2.5	3.0	5.0
Stroke	10	10	10
OL SWG	138	141	146



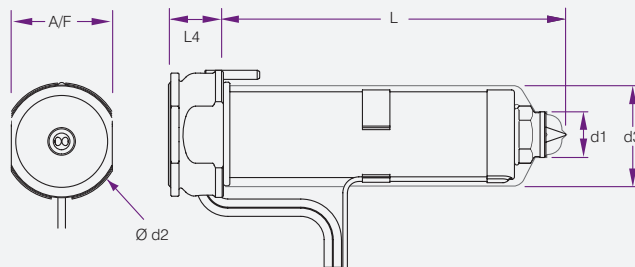
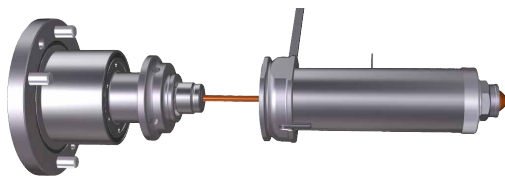
Gating Options



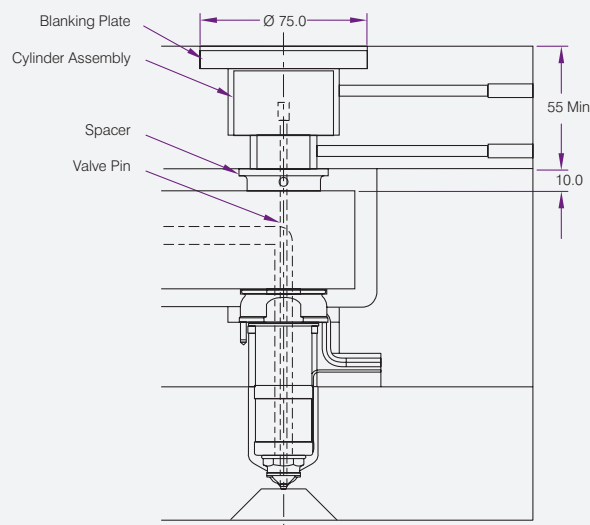
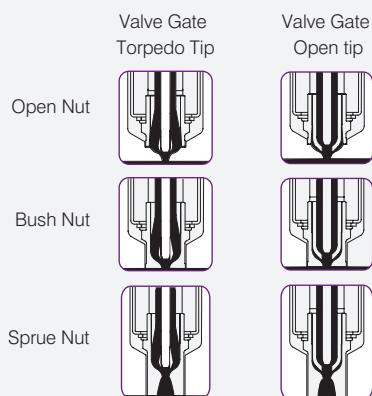
Valve Gate Compatibility		
	13 Series* MX / BX	16 Series MX / BX
Model	MVG25 - 2.0	MVG25 - 2.5
Actuation Type	Pneumatic	Pneumatic
Pin Size	2.0	2.5
Stroke	7	7

	13 Series		16 Series	
	MX	BX	MX	BX
L	45	45	45	45
	55	55	55	55
	65	65	65	65
	75	75	75	75
	95	95	95	95
	115	115	115	115
	145	145	145	145
	175	175	175	175
A/F	24	31	26	34
d1	10	10	12	12
d2	28	34	30	38
d3	22.9	27	24.9	30
L4	12	12	12	12

* 13 Series available in open nut and open tip only



Gating Options

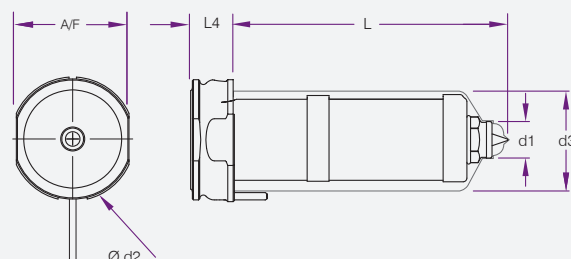
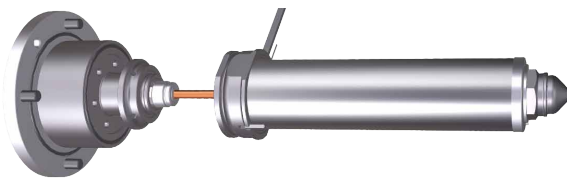


Valve Gate Compatibility

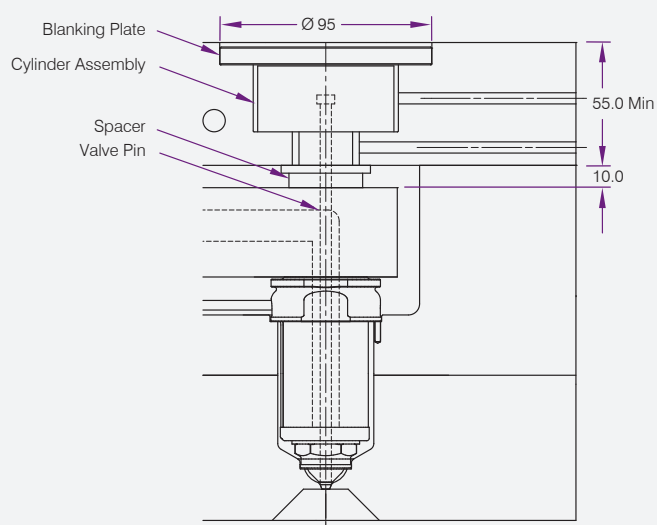
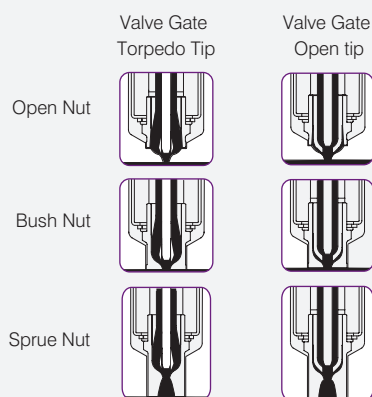
	13 Series* MX / BX	16 Series MX / BX	19 Series MX / BX	27 Series BX
Model	MVG40 - 2.0	MVG40 - 2.5	MVG40 - 3.0	MVG40 - 5.0
Actuation Type	Pneumatic	Pneumatic	Pneumatic	Pneumatic
Pin Size	2.0	2.5	3.0	5.0
Stroke	10	10	10	10

	13 Series		16 Series		19 Series		27 Series
	MX	BX	MX	BX	MX	BX	BX
L	45	45	45	45			
	55	55	55	55	55	55	
	65	65	65	65	65	65	
	75	75	75	75	75	75	75
	95	95	95	95	95	95	95
	115	115	115	115	115	115	115
	145	145	145	145	145	145	145
A/F	24	31	26	34	36	36	45
d1	10	10	12	12	15	15	23
d2	28	34	30	38	40	40	50
d3	22.9	27	24.9	30	31.5	33	43
L4	12	12	12	12	15	15	20

* 13 Series available in open nut and open tip only



Gating Options



Valve Gate Assembly	
	27 Series BX
Model	MVG55 - 5.0
Actuation Type	Pneumatic
Pin Size	5.0
Stroke	10

	27 Series
	BX
L	75
	95
	115
	145
	175
	225
	275
A/F	40
d1	23
d2	50
d3	43
L4	10



Product Code	Type
PIM1BX10	10 Amp Unit

Multi Zone Temperature Control Systems

HOT RUNNER & CONTROL



16 to 48 Zone Mainframes are also available to order.
30 Amp option also available.
Modules sold separately.

Product Code	Description	Amp
MFFMP2	2 Zone Mainframe	15 Amp
MFFMP3	3 Zone Mainframe	15 Amp
MF5	5 Zone Mainframe	15 Amp
MF8	8 Zone Mainframe	15 Amp
MF12	12 Zone Mainframe	15 Amp

RMA Modular Hot Runner Controllers

HOT RUNNER & CONTROL



RMA Module

- Simultaneous digital setpoint and digital temperature indication.
- Accepts Type J or Type K thermocouple input (jumper selectable).
- Auto-tuning, with adjustable proportional band and rate.
- Bumpless auto/manual transfer.
- CompuStep bakeout feature prevents moisture at start-up.
- Built-in loop break, short, open, and reverse thermocouple protection.
- Jumper-selectable self-start mode.
- Current monitor feature displays average current to load.
- CE-compliant.

Product Code
RMAX15



5 pin combination Thermocouple/Power Cable.

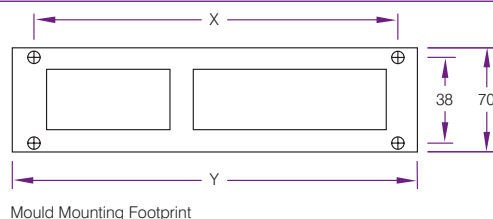
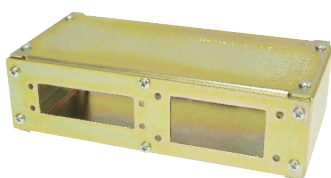
Product Code	Length
MPTC10	10'
MPTC20	20'



Product Code	Zones	Length
MPC5C10	5 Zones	10'
MPC5C20	5 Zones	20'
MPC8C10	8 Zones	10'
MPC8C20	8 Zones	20'
MPC12C10	12 Zones	10'
MPC12C20	12 Zones	20'



Product Code	Zones	Length
TC5C10	5 Zones	10'
TC5C20	5 Zones	20'
TC8C10	8 Zones	10'
TC8C20	8 Zones	20'
TC12C10	12 Zones	10'
TC12C20	12 Zones	20'



Product Code	Zones	X	Y
PTC5TB	5 Zones	204	220
PTC8TB	8 Zones	224.6	240.5
PTC12TB	12 Zones	251.6	267.5

Thermocouple Connectors

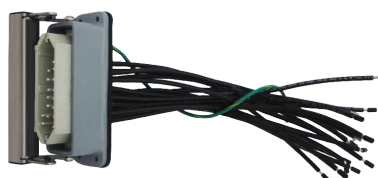
HOT RUNNER & CONTROL



Product Code	Description	Zones
MTC5	Mould Thermocouple Connector	5 Zones
MTC8	Mould Thermocouple Connector	8 Zones
MTC12	Mould Thermocouple Connector	12 Zones

Mould Power Input Connectors

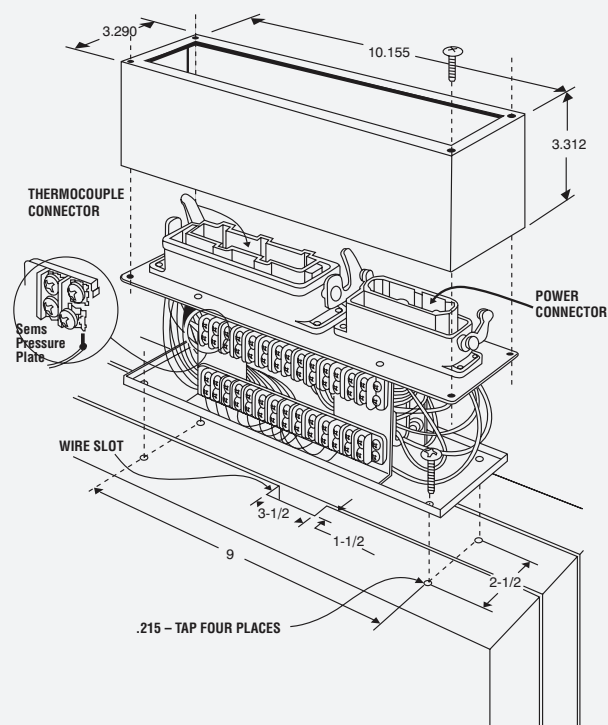
HOT RUNNER & CONTROL



Product Code	Description	Zones
PIC5	Mould Power Connector	5 Zones
PIC8	Mould Power Connector	8 Zones
PIC12	Mould Power Connector	12 Zones



1. The terminal blocks are completely prewired to both the Power and Thermocouple Connectors.
2. Terminal blocks are numbered by MOLD ZONE for ease of installation and troubleshooting.
3. Feed the wires from the mold wire slot through the opening(s) in the bottom of the Mold Wiring System. Slide the mold wires under the SEMS pressure plate on the appropriate zone-numbered terminal.
4. The RED and WHITE wires are the THERMOCOUPLE SIDE. Install thermocouple wire from the mold. + (White/upper) - (Red/lower) to the corresponding zone number on the upper and lower terminal blocks.
5. Install the POWER wires on the opposite two terminal blocks marked Power side to corresponding number on the terminal blocks, one to upper and one to lower.
6. Place the cover over the Mold Wiring System and tighten with the four screws supplied.



Product Code	Zones	Length Y	Width X	Height H	Mounting Hole M1	Mounting Hole M2
PTBC005-A	005	8.66"	2.75"	4.50"	1.500	8.031
PTBC008-A	008	9.47"	2.75"	4.50"	1.500	8.843
PTBC012-A	012	10.53"	2.75"	4.50"	1.500	9.906



Product Code	Amps
ABC10	10
ABC15	15



Product Code	Description
CKPTM-1	5-Pin Combo Mold Power/ Thermocouple Male Connectors
CKPTM-1 Metal	5-Pin Combo Mold Power/ Thermocouple Male Connectors



Product Code	Description
CKPTOC-1	5-Pin Combo Mold Power/ Thermocouple Female Connectors
CKPTOC-1 Metal	5-Pin Combo Mold Power/ Thermocouple Female Connectors



Product Code	Description
CKPTF-1	5-Pin Combo Mold Power/ Thermocouple Female Connectors
CKPTF-1 Metal	5-Pin Combo Mold Power/ Thermocouple Female Connectors



Product Code	Description
CKPTIC-1	5-Pin Combo Mold Power/ Thermocouple Male Connectors
CKPTIC-1 Metal	5-Pin Combo Mold Power/ Thermocouple Male Connectors

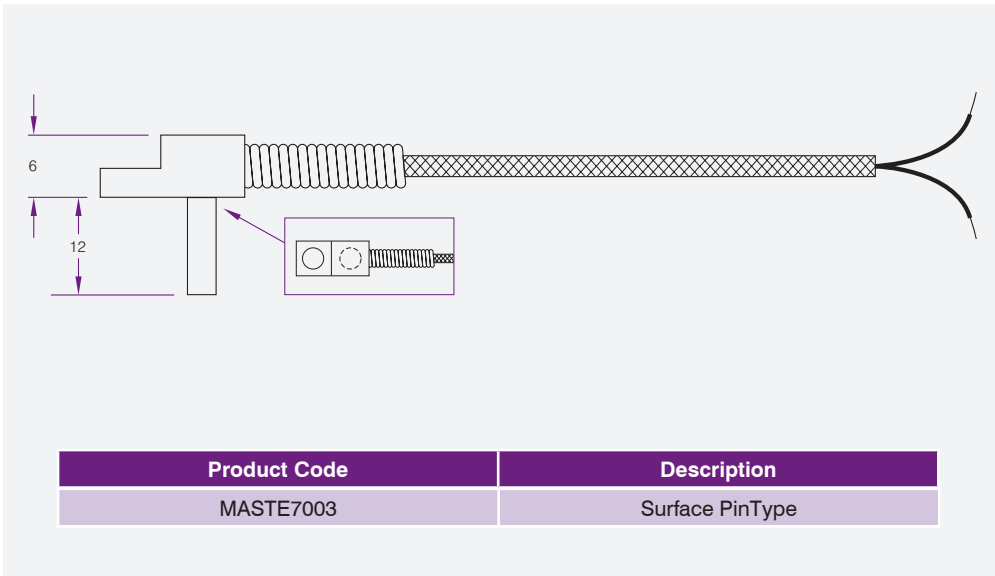
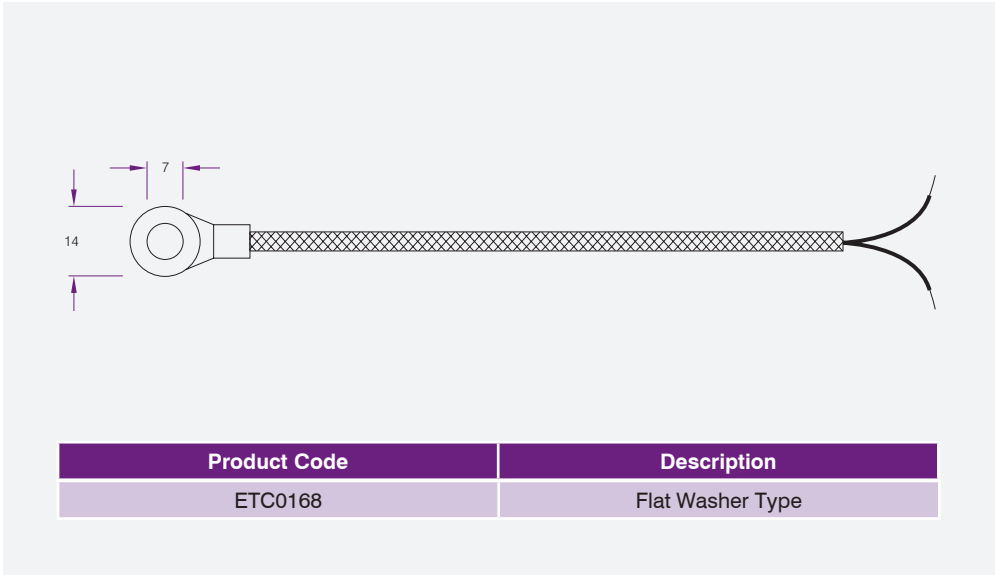
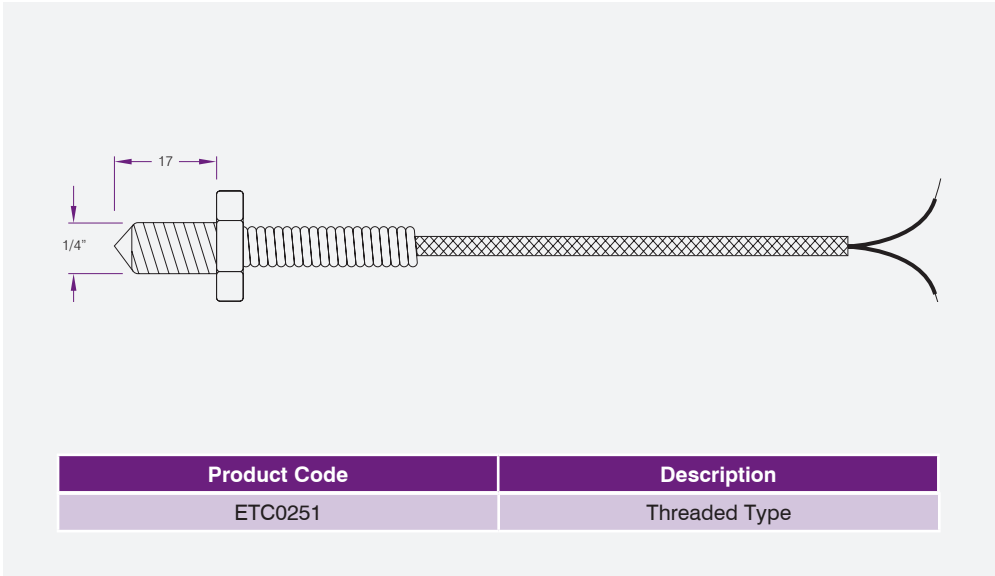


Table of ISA Standard Tolerances in Microns

1 micron = 0.001mm / 25.4 micron = 0.001 inches

Designation	Applicaition	up to 3mm	3 - 6 mm	6 -10mm	10 - 18mm	18 - 30 mm	30 - 50mm
d 9		-20 -45	-30 -60	-40 -76	-50 -93	-65 -117	-80 -142
f 7	Ground surfaces	-6 -16	-10 -22	-13 -28	-16 -34	-20 -41	-25 -50
F 7	Drill guides-I.D.	+16 +7	+22 +10	+28 +13	+34 +16	+41 +20	+50 +25
g 5		-2 -6	-4 -9	-5 -11	-6 -14	-7 -16	-9 -20
g 6	Ejector pins	-2 -8	-4 -12	-5 -14	-6 -17	-7 -20	-9 -25
h 4	Guide pins (die sets)	0 -3	0 -4	0 -4	0 -5	0 -6	0 -7
h 5		0 -4	0 -5	0 -6	0 -8	0 -9	0 -11
h 6	Punches D.C. F(pt)	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16
h 7		0 -10	0 -12	0 -15	0 -18	0 -21	0 -25
h 9		0 -25	0 -30	0 -36	0 -43	0 -52	0 -62
h 11		0 -60	0 -75	0 -90	0 -110	0 -210	0 -250
H 5		+4 0	+5 0	+6 0	+8 0	+9 0	+11 0
H 7	Punch guides-I.D Reamers	+10 0	+12 0	+15 0	+18 0	+21 0	+25 0
H 8	Die inserts or buttons-I.D.(A & B)	+14 0	+18 0	+22 0	+27 0	+33 0	+39 0
j 5		+2 -2	+3 -2	+4 -2	+5 -3	+5 -4	+6 -5
j 6		+4 -2	+6 -2	+7 -2	+8 -3	+9 -4	+11 -5
j 7		+7 -2	+9 -3	+10 -5	+12 -6	+13 -8	+15 -10
k 6	Die inserts-O.D(B)	+10 +1	+12 +1	+15 +2	+18 +2		
m 5		+7 +2	+9 +4	+12 +6	+15 +7	+17 +8	+20 +9
m 6	Punches E,F(shk) Dowels	+9 +2	+12 +4	+15 +6	+18 +7	+21 +8	+25 +9
n 6	Die inserts-O.D.(A) Guide bushes-O.D.	13 +6	+16 +8	+19 +10	+23 +12	+28 +15	+32 +17
p 6		+16 +9	+20 +12	+24 +15	+29 +18	+35 +22	+42 +26
r 6		+19 +12	+23 +15	+28 +19	+34 +23	+41 +28	+50 +34
s 5		+18 +14	+24 +19	+29 +23	+36 +28	+44 +35	+54 +43
s 6		+22 +15	+27 +19	+32 +23	+39 +28	+48 +35	+59 +43

