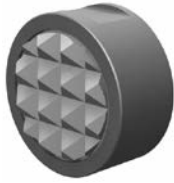


**FIXED GRIPPERS**

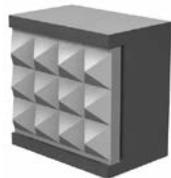
	Page Number	Part # Prefix
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**ROUND STYLE**



Tool Steel - Serrated - Tapped Hole - Inch .....	8	HS
Tool Steel - Serrated - Tapped Hole - Metric .....	8	MHS
Tool Steel - Single Point - Tapped Hole - Inch .....	8	HS
Tool Steel - Serrated - Tapped Hole - Inch .....	9	HS
Tool Steel - Serrated - Tapped Hole - Metric .....	9	MHS
Carbide Tipped - Serrated - Tapped Hole - Inch .....	10	CT
Carbide Tipped - Serrated - Tapped Hole - Metric .....	10	MCT
Solid Carbide - Serrated - Tapped Hole - Inch .....	11	FSC
Tool Steel - Straight Serrations - Tapped Hole - Inch .....	11	HS
Tool Steel - Serrated - Counter Bored Hole - Inch .....	12	HS
Tool Steel - Serrated - Counter Bored Hole - Metric .....	12	MHS

**SQUARE STYLE**



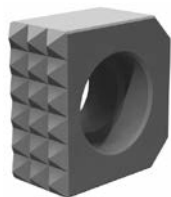
Tool Steel - Serrated - Tapped Hole - Inch .....	13	HS
Tool Steel - Serrated - Tapped Hole - Metric .....	13	MHS
Carbide Tipped - Serrated - Tapped Hole - Inch .....	13	CT
Carbide Tipped - Serrated - Tapped Hole - Metric .....	13	MCT
Solid Carbide - Serrated - Tapped Hole - Inch .....	14	FSC
Tool Steel - Straight Serrations - Tapped Hole - Inch .....	14	HS
Tool Steel - Serrated - Counter Bored Hole - Inch .....	15	HS
Tool Steel - Serrated - Counter Bored Hole - Metric .....	15	MHS
Tool Steel - Straight Serrations - Counter Bored Hole - Inch .....	15	HS

**ANGLED STYLE**



Tool Steel - Tapped - Inch .....	16	HS
Tool Steel - Tapped - Metric .....	16	MHS
Solid Carbide - Tapped - Inch .....	16	FSC
Solid Carbide - Tapped - Metric .....	16	MFSC
Carbide Tipped - Tapped - Inch .....	17	CT
Carbide Tipped - Tapped - Metric .....	17	MCT

**EDGE STYLE**



Tool Steel - Serrated - Counter Bored - Inch .....	17	HSE
Tool Steel - Serrated - Counter Bored - Metric .....	17	MHSE
Tool Steel - Straight Serrations - Counter Bored - Inch .....	18	HSE
Tool Steel - Straight Serrations - Counter Bored - Metric .....	18	MHSE

**CARBIDE PADS**



	Page Number	Part # Prefix
Round - Serrated - No Hole - Inch .....	19	CC
Square - Serrated - No Hole - Inch .....	19	CS
Rectangle - Serrated - No Hole - Inch .....	19	CR

## REST PADS



	Page Number	Part # Prefix
Steel - Tapped - Inch .....	20	SRP
Steel - Tapped - Metric .....	20	MSRP
Delrin - Tapped - Inch .....	20	DRP
Delrin - Tapped - Metric .....	20	MDRP
Carbide Tipped - Tapped - Inch .....	21	CRP
Solid Carbide - No Hole - Inch .....	21	CC
Steel - Counter Bored - Inch .....	22	SRP
Delrin - Counter Bored - Inch .....	22	DRP

## THREADED ADJUSTABLE GRIPPERS



	Page Number	Part # Prefix
Hex Head - Carbide Tipped - Inch .....	23	CTH & CTHF
Hex Head - Carbide Tipped - Metric .....	24	MCTH
AdjustaGrip™ Hex Head - Replaceable Pad - Inch .....	24	AJH
Round Head - Carbide Tipped - Inch .....	25	AG
AccuGrip™ - Carbide Tipped - Inch .....	25	ACG
Threaded Body - Steel - Inch .....	26	HS
Threaded Body - Steel - Metric .....	26	MHS
Threaded Body - Carbide Tipped - Inch .....	27	PG
Threaded Body - Carbide Tipped - Metric .....	27	MPG

## SWIVOTS® - REPLACEABLE SWIVEL BALL STYLE

### HEX HEAD



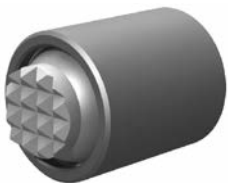
	Page Number	Part # Prefix
Tool Steel Ball - Serrated - Inch .....	29 - 31	BUH
Tool Steel Ball - Serrated - Metric .....	31	MBUH
Tool Steel Ball - Flat - Inch .....	32 - 33	BUH
Tool Steel Ball - Flat - Metric .....	33	MBUH
Delrin Ball - Flat - Inch .....	34 - 35	BUH
Delrin Ball - Flat - Metric .....	35	MBUH

### THREADED BODY



Tool Steel Ball - Serrated - Inch .....	36 - 38	TBU
Tool Steel Ball - Serrated - Metric .....	38	MTBU
Tool Steel Ball - Flat - Inch .....	39 - 40	TBU
Tool Steel Ball - Flat - Metric .....	40	MTBU
Delrin Ball - Flat - Inch .....	41 - 42	TBU
Delrin Ball - Flat - Metric .....	42	MTBU

### BASE DESIGN



Tool Steel Ball - Serrated - Inch .....	43	BBU
Tool Steel Ball - Serrated - Metric .....	44	MBBU
Tool Steel Ball - Flat - Inch .....	45	BBU
Tool Steel Ball - Flat - Metric .....	45	MBBU
Delrin Ball - Flat - Inch .....	46	BBU
Delrin Ball - Flat - Metric .....	46	MBBU

**SWIVOTS® - REPLACEABLE SWIVEL PAD STYLE**

**Page Number      Part # Prefix**

**HEX HEAD**



Inch .....	48	.....	BUH
Metric.....	49	.....	MBUH

**THREADED BODY**



Inch .....	50	.....	TBU
Metric.....	50	.....	MTBU

**BASE DESIGN**

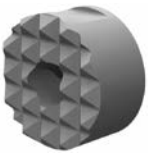


Inch .....	51	.....	BBU
Metric.....	51	.....	MBBU

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**AJACS**  
 1-800-968-6868

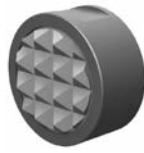
## Replaceable Pads

### SERRATED GRIPPER PADS



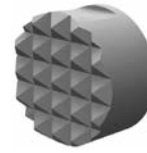
#### High Speed Tool Steel

Manufactured from M-2 high speed tool steel, hardened to Rc 60/62 with black oxide finish. Mounts with tapped hole, counter bored hole or a flat on the outside diameter for set screw mounting.



#### Carbide Tipped

Constructed with a high impact carbide pad brazed to a heat treated alloy steel body. Mounts with tapped hole or a flat on the outside diameter for set screw mounting.



#### Solid Carbide

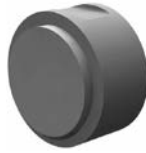
Manufactured from high impact carbide in a solid serrated gripper pad with a threaded brazed-in steel insert. Mounts with tapped hole or a flat on the outside diameter for set screw mounting.

### FLAT REST PADS



#### Solid Carbide

High impact carbide pads. Can be brazed or bonded into place.



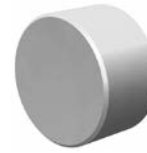
#### Carbide Tipped

Constructed with a high impact carbide pad brazed to a heat treated alloy steel body. Mounts with tapped hole or a flat on the outside diameter for set screw mounting.



#### Hardened Steel

Made from 8620 steel, carburized and hardened to Rc 58/60 .050" case with black oxide finish. Mounts with tapped or counter bored hole.



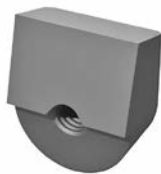
#### Non-Marring Delrin

Manufactured from white Delrin. Mounts with counter bored or tapped hole.

## Tooth Pattern Specifications

Throughout this catalog, you will find reference to tooth patterns on all serrated grippers. Please use the chart below for specific information regarding these tooth patterns. If additional information is required, please contact us.

### ANGLE GRIPPERS



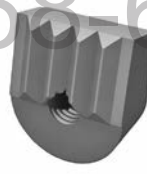
Smooth



4 Point



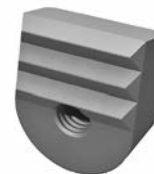
Fine



Straight

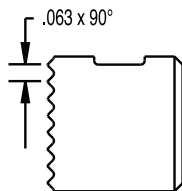


Angular  
Straight

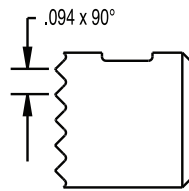


3 Point /  
90° Straight

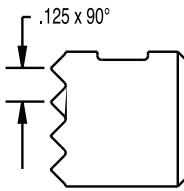
### ROUND AND SQUARE GRIPPERS



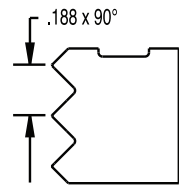
Super Fine  
"SF"



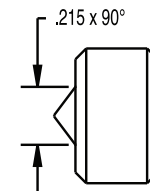
Extra Fine  
"EF"



Fine



Coarse



Single Point

Diamond  
Serration  
Pattern



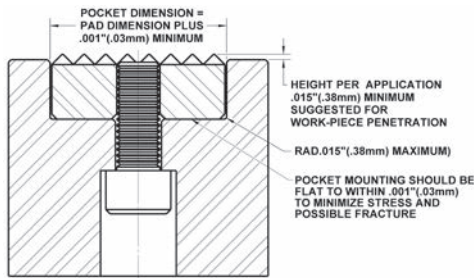
Straight  
Serration  
Pattern  
"SS"



# Serrated Gripper Pad, Rest Pad And Carbide Pad Mounting Applications and Specifications

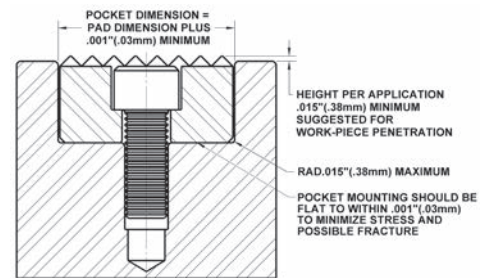
Below are some of the more common mounting applications for fixed grippers, rest pads and carbide pads shown in this catalog.

**Round or square grippers and rest pads with tapped blind-hole or through hole tap.**



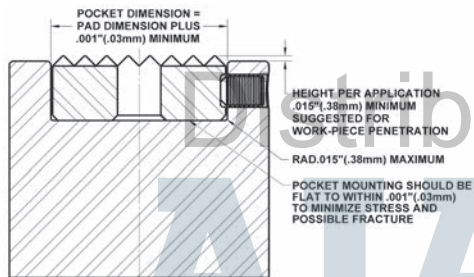
BOLT THROUGH FROM BACK USING A SOCKET HEAD CAP SCREW. CAN ONLY BE USED WITH THREADED STYLE PADS. (SERRATED GRIPPER SHOWN)

**Round or square grippers and rest pads with counter-bored hole.**



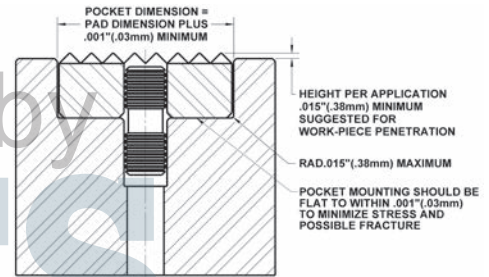
BOLT THROUGH FROM FRONT USING A SOCKET HEAD CAP SCREW. CAN ONLY BE USED WITH C'BORED STYLE PADS. (SERRATED GRIPPER SHOWN)

**Round grippers with flat on the O.D. for set screw mounting, or square gripper.**



SET SCREW FROM SIDE TO FLAT ON ROUND GRIPPER OR SIDE OF SQUARE GRIPPER.

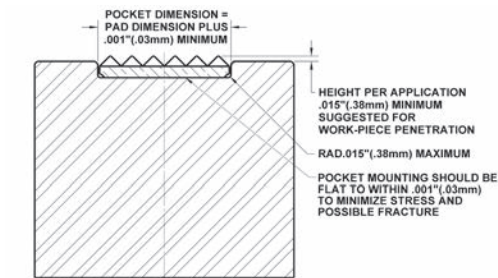
**Round or square grippers with through tapped hole.**



DIFFERENTIAL SCREW FROM FRONT OR BACK UTILIZING L.H. TAPPED HOLE IN POCKET. CAN ONLY BE USED WITH TAPPED STYLE PADS. (SERRATED GRIPPER SHOWN)

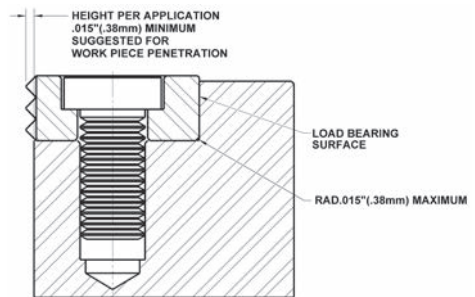
1-800-968-6868

**Round or square carbide pads.**



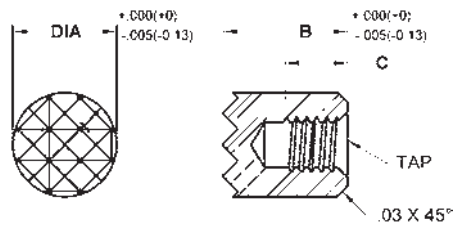
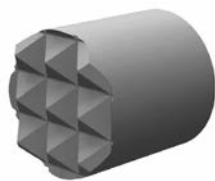
A CARBIDE PAD CAN BE FASTENED USING SILVER SOLDER (PREFERRED) OR A FLEXIBLE ADHESIVE. CAN ONLY BE USED WITH CARBIDE STYLE PADS. (SERRATED GRIPPER SHOWN)

**Counter-bored edge grippers.**



BOLT THROUGH FROM TOP USING A LOW HEAD SOCKET CAP SCREW. CAN ONLY BE USED WITH EDGE STYLE SERRATED GRIPPER PADS.

## Round Style Tool Steel – Serrated – Tapped Hole – Inch & Metric



Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Blind-hole tap for back side mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

### INCH

Part Number	B Height	C Tap Depth	Tooth Pattern
<b>1/4" Dia - #8-32 Tap</b>			
HS-20	3/8	3/16	EF
HS-20-SF	3/8	3/16	SF
HS-205	1/2	5/16	EF
HS-205-SF	1/2	5/16	SF
<b>5/16" Dia - #8-32 Tap</b>			
HS-30	3/8	3/16	EF
HS-30-SF	3/8	3/16	SF
HS-305	1/2	5/16	EF
HS-305-SF	1/2	5/16	SF

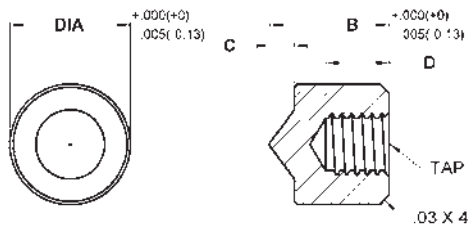
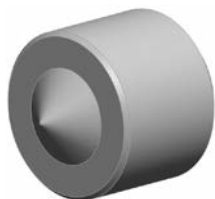
Part Number	B Height	C Tap Depth	Tooth Pattern
<b>3/8" Dia - #10-32 Tap</b>			
HS-40-BL	3/8	3/16	EF
HS-40-BL-SF	3/8	3/16	SF
HS-405-BL	1/2	5/16	EF
HS-405-BL-SF	1/2	5/16	SF
<b>1/2" Dia - #10-32 Tap</b>			
HS-50-BL	3/8	3/16	Fine
HS-50-BL-EF	3/8	3/16	EF
HS-50-BL-SF	3/8	3/16	SF
HS-53-BL	1/2	5/16	Fine
HS-53-BL-EF	1/2	5/16	EF
HS-53-BL-SF	1/2	5/16	SF

### METRIC

Part Number	B Height	C Tap Depth	Tooth Pattern
<b>6mm Dia - M3x0.5 Tap</b>			
MHS-060-SF	10	5	SF
MHS-062-SF	12	7	SF

Part Number	B Height	C Tap Depth	Tooth Pattern
<b>8mm Dia - M4x0.7 Tap</b>			
MHS-080-SF	10	5	SF
MHS-082-SF	12	7	SF

## Round Style Tool Steel – Single Point – Tapped Hole – Inch



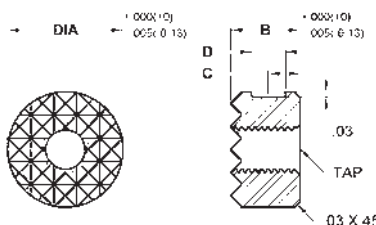
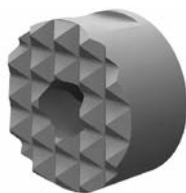
Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Single point contact allows for reduced force yet deeper penetration. Blind-hole tap for back side mounting. See page 7 for mounting specifications.

### INCH

Part Number	B Height	C Stand Off	D Tap Depth
<b>1/4" Dia - #8-32 Tap</b>			
HS-20-1	3/8	5/64	1/8
HS-205-1	1/2	5/64	1/4
<b>5/16" Dia - #8-32 Tap</b>			
HS-30-1	3/8	5/64	1/8
HS-305-1	1/2	5/64	1/4

Part Number	B Height	C Stand Off	D Tap Depth
<b>3/8" Dia - #10-32 Tap</b>			
HS-40-1	3/8	5/64	1/8
HS-405-1	1/2	5/64	1/4
<b>1/2" Dia - #10-32 Tap</b>			
HS-50-1	3/8	5/64	1/8
HS-53-1	1/2	5/64	1/4

# Round Style Tool Steel – Serrated – Tapped Hole – Inch & Metric



Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Thru-hole tap. Flat on O.D. for set screw mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>3/8" Dia - #10-32 Tap</b>				
HS-40	3/8	11/64	3/16	EF
HS-40-SF	3/8	11/64	3/16	SF
HS-405	1/2	15/64	3/16	EF
HS-405-SF	1/2	15/64	3/16	SF
<b>1/2" Dia - #10-32 Tap</b>				
HS-50	3/8	11/64	3/16	Fine
HS-50-EF	3/8	11/64	3/16	EF
HS-50-SF	3/8	11/64	3/16	SF
HS-51	1/2	15/64	3/16	Coarse
HS-52*	1/2	Keyway	-	Fine
HS-52-EF*	1/2	Keyway	-	EF
HS-53	1/2	15/64	3/16	Fine
HS-53-EF	1/2	15/64	3/16	EF
HS-53-SF	1/2	15/64	3/16	SF
HS-54	.651	19/64	3/16	Fine
HS-54-EF	.651	19/64	3/16	EF

\*Keyway = .130" width, .060" depth

Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>5/8" Dia - 1/4-28 Tap</b>				
HS-62	3/8	11/64	3/16	Fine
HS-62-EF	3/8	11/64	3/16	EF
HS-63	3/8	11/64	3/16	Coarse
HS-625	1/2	15/64	3/16	Fine
HS-625-EF	1/2	15/64	3/16	EF
HS-635	1/2	15/64	3/16	Coarse

Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>3/4" Dia - 1/4-28 Tap</b>				
HS-75	3/8	11/64	3/16	Fine
HS-75-EF	3/8	11/64	3/16	EF
HS-76	3/8	11/64	3/16	Coarse
HS-755	1/2	15/64	3/16	Fine
HS-755-EF	1/2	15/64	3/16	EF
HS-765	1/2	15/64	3/16	Coarse

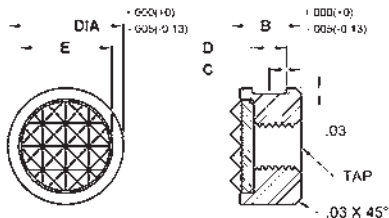
Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>1" Dia - 1/4-28 Tap</b>				
HS-81	3/8	11/64	3/16	Coarse
HS-82	3/8	11/64	3/16	Fine
HS-82-EF	3/8	11/64	3/16	EF
HS-815	1/2	15/64	3/16	Coarse
HS-825	1/2	15/64	3/16	Fine
HS-825-EF	1/2	15/64	3/16	EF

**METRIC**

Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>10mm Dia - M5x0.8 Tap</b>				
MHS-100	10	4.5	4.75	EF
MHS-102	12	6	4.75	EF
<b>12mm Dia - M5x0.8 Tap</b>				
MHS-120	10	4.5	4.75	Fine
MHS-122	12	6	4.75	Fine
<b>16mm Dia - M6x1.0 Tap</b>				
MHS-160	10	4.5	4.75	Fine
MHS-162	12	6	4.75	Fine

Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>20mm Dia - M6x1.0 Tap</b>				
MHS-200	10	4.5	4.75	Fine
MHS-202	12	6	4.75	Fine
<b>25mm Dia - M6x1.0 Tap</b>				
MHS-250	10	4.5	4.75	Fine
MHS-252	12	6	4.75	Fine

## Round Style Carbide Tipped – Serrated – Tapped Hole – Inch & Metric



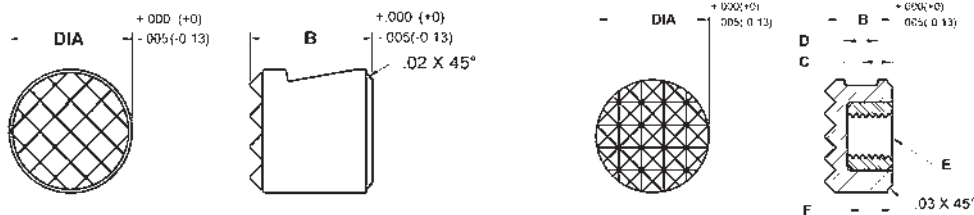
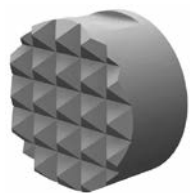
Constructed with a serrated carbide gripper pad brazed to a heat treated alloy steel body. Blind-hole tap for back side mounting. Flat on O.D. for set screw mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

INCH						METRIC					
Part Number	B Height	C Flat Pos.	D Flat Width	E Pad Dia.	Tooth Pattern	Part Number	B Height	C Flat Pos.	D Flat Width	E Pad Dia.	Tooth Pattern
<b>3/8" Dia – #10-32 Tap</b>						<b>10mm Dia – M5x0.8 Tap</b>					
CT-830	3/8	11/64	3/16	5/16	EF	MCT-100	10	4.5	4.75	5/16	EF
CT-830-4	3/8	11/64	3/16	5/16	4 Point	MCT-102	12	6.0	4.75	5/16	EF
CT-835	1/2	15/64	3/16	5/16	EF	<b>12mm Dia – M5x0.8 Tap</b>					
CT-835-4	1/2	15/64	3/16	5/16	4 Point	MCT-120	10	4.5	4.75	3/8	Fine
<b>1/2" Dia – #10-32 Tap</b>						MCT-122	12	6.0	4.75	3/8	Fine
CT-840	1/2	15/64	3/16	3/8	Fine	<b>16mm Dia – M6x1.0 Tap</b>					
CT-840-EF	1/2	15/64	3/16	3/8	EF	MCT-160	10	4.5	4.75	1/2	Fine
CT-840-4	1/2	15/64	3/16	3/8	4 Point	MCT-162	12	6.0	4.75	1/2	Fine
CT-841	3/8	11/64	3/16	3/8	Fine	<b>20mm Dia – M6x1.0 Tap</b>					
CT-841-EF	3/8	11/64	3/16	3/8	EF	MCT-200	10	4.5	4.75	5/8	Fine
CT-841-4	3/8	11/64	3/16	3/8	4 Point	MCT-202	12	6.0	4.75	5/8	Fine
CT-842	.651	19/64	3/16	3/8	Fine	<b>25mm Dia – M6x1.0 Tap</b>					
CT-842-EF	.651	19/64	3/16	3/8	EF	MCT-250	10	4.5	4.75	3/4	Fine
CT-842-4	.651	19/64	3/16	3/8	4 Point	MCT-252	12	6.0	4.75	3/4	Fine
CT-844*	1/2	Keyway	-	3/8	Fine	<b>INCH DIAMETERS WITH METRIC THREADS</b>					
CT-844-EF*	1/2	Keyway	-	3/8	EF	<b>Part Number</b>	<b>B Height</b>	<b>C Flat Pos.</b>	<b>D Flat Width</b>	<b>E Pad Dia.</b>	<b>Tooth Pattern</b>
CT-844-4*	1/2	Keyway	-	3/8	4 Point	<b>1/2" Dia – M6x1.0 Tap</b>					
<b>5/8" Dia – 1/4-28 Tap</b>						MCT-840-EF	1/2	15/64	3/16	3/8	EF
CT-850	3/8	11/64	3/16	1/2	Fine	MCT-841-EF	3/8	11/64	3/16	3/8	EF
CT-850-EF	3/8	11/64	3/16	1/2	EF	MCT-842-EF	.651	19/64	3/16	3/8	EF
CT-855	1/2	15/64	3/16	1/2	Fine	<b>5/8" Dia – M6x1.0 Tap</b>					
CT-855-EF	1/2	15/64	3/16	1/2	EF	MCT-850-EF	3/8	11/64	3/16	1/2	EF
CT-071*	5/8	Keyway	-	1/2	Fine	<b>3/4" Dia – M6x1.0 Tap</b>					
CT-071-EF*	5/8	Keyway	-	1/2	EF	MCT-860-EF	3/8	11/64	3/16	5/8	EF
CT-071-4*	5/8	Keyway	-	1/2	4 Point						
<b>3/4" Dia – 1/4-28 Tap</b>											
CT-860	3/8	11/64	3/16	5/8	Fine						
CT-860-EF	3/8	11/64	3/16	5/8	EF						
CT-862	1/2	15/64	3/16	5/8	Fine						
CT-862-EF	1/2	15/64	3/16	5/8	EF						
<b>1" Dia – 1/4-28 Tap</b>											
CT-865	3/8	11/64	3/16	3/4	Fine						
CT-865-EF	3/8	11/64	3/16	3/4	EF						

\*Keyway= .130" width, .060" depth



**Round Style Solid Carbide – Serrated – Tapped Hole – Inch**

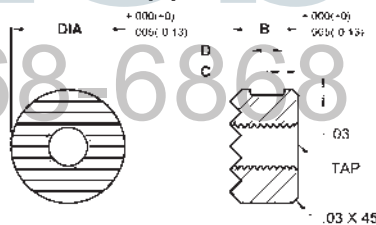
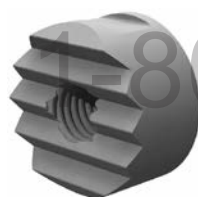


Made from solid carbide for high wear and high load applications. Serrated for positive holding in tough applications. Blind-hole tap for back side mounting. Flat on O.D. for set screw mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	C Flat Pos.	D Flat Width	E Thread Size	F Tap Depth	Tooth Pattern
<b>1/4" Dia</b>						
FSC-20-SF-SL	3/8	—	—	—	—	SF
FSC-20-4-SL	3/8	—	—	—	—	4 Point
<b>5/16" Dia</b>						
FSC-30-SL	3/8	—	—	—	—	EF
FSC-30-4-SL	3/8	—	—	—	—	4 Point
<b>3/8" Dia</b>						
FSC-40-SL	3/8	—	—	—	—	EF
FSC-40-4-SL	3/8	—	—	—	—	EF
<b>1/2" Dia</b>						
FSC-841	3/8	11/64	3/16	#10-32	3/16	Fine
FSC-844-4	1/2	15/64	3/16	#10-32	5/16	4 Point
FSC-844	1/2	15/64	3/16	#10-32	5/16	Fine
FSC-844-SL	1/2	15/64	3/16	—	—	Fine
FSC-070-4	1/2	—	Keyway	#10-32	5/16	4 Point
FSC-070	1/2	—	Keyway	#10-32	5/16	Fine
<b>5/8" Dia</b>						
FSC-850	3/8	11/64	3/16	1/4-28	3/16	Fine
<b>3/4" Dia</b>						
FSC-860	3/8	11/64	3/16	1/4-28	3/16	Fine

**Round Style Tool Steel – Straight Serrations – Tapped Hole – Inch**

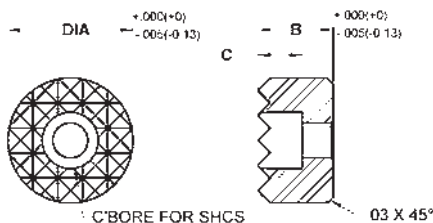


Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Thru-hole tap. Flat on O.D. for set screw mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern	Part Number	B Height	C Flat Pos.	D Flat Width	Tooth Pattern
<b>3/8" Dia - #10-32 Tap</b>					<b>3/4" Dia - 1/4-28 Tap</b>				
HS-40-SS	3/8	11/64	3/16	EF	HS-75-SS	3/8	11/64	3/16	Fine
HS-40-SS-SF	3/8	11/64	3/16	SF	HS-75-SS-EF	3/8	11/64	3/16	EF
HS-405-SS	1/2	15/64	3/16	EF	HS-76-SS	3/8	11/64	3/16	Coarse
HS-405-SS-EF	1/2	15/64	3/16	SF	HS-755-SS	1/2	15/64	3/16	Fine
<b>1/2" Dia - #10-32 Tap</b>					<b>HS-755-SS-EF</b>				
HS-50-SS	3/8	11/64	3/16	Fine	HS-765-SS	1/2	15/64	3/16	Coarse
HS-50-SS-EF	3/8	11/64	3/16	EF	<b>1" Dia - 1/4-28 Tap</b>				
HS-50-SS-SF	3/8	11/64	3/16	SF	HS-81-SS	3/8	11/64	3/16	Coarse
HS-51-SS	1/2	15/64	3/16	Coarse	HS-82-SS	3/8	11/64	3/16	Fine
HS-53-SS	1/2	15/64	3/16	Fine	HS-82-SS-EF	3/8	11/64	3/16	EF
HS-53-SS-EF	1/2	15/64	3/16	EF	HS-815-SS	1/2	15/64	3/16	Coarse
HS-53-SS-SF	1/2	15/64	3/16	SF	HS-825-SS	1/2	15/64	3/16	Fine
<b>5/8" Dia - 1/4-28 Tap</b>					<b>HS-825-SS-EF</b>				
HS-62-SS	3/8	11/64	3/16	Fine	HS-825-SS-EF	1/2	15/64	3/16	EF
HS-62-SS-EF	3/8	11/64	3/16	EF					
HS-63-SS	3/8	11/64	3/16	Coarse					
HS-625-SS	1/2	15/64	3/16	Fine					
HS-625-SS-EF	1/2	15/64	3/16	EF					
HS-635-SS	1/2	15/64	3/16	Coarse					

## Round Style Tool Steel – Serrated – Counter Bored Hole – Inch & Metric

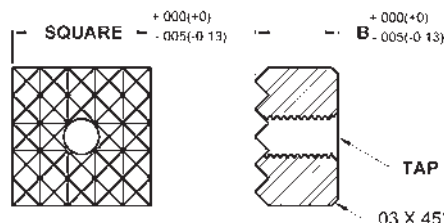
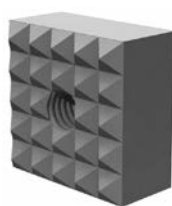


Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Counter bored hole for front mounting with a socket head cap screw. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

INCH				METRIC			
Part Number	B Height	C C'Bores Depth	Tooth Pattern	Part Number	B Height	C C'Bores Depth	Tooth Pattern
<b>1/2" Dia - Counter Bored for #8 SHCS</b>				<b>12mm Dia - Counter Bored for M4 SHCS</b>			
HS-50-C	3/8	7/32	Fine	MHS-120-C	10	5.6	Fine
HS-50-C-EF	3/8	7/32	EF	MHS-122-C	12	5.6	Fine
HS-50-C-SF	3/8	7/32	SF				
HS-53-C	1/2	7/32	Fine	<b>16mm Dia - Counter Bored for M4 SHCS</b>			
HS-53-C-EF	1/2	7/32	EF	MHS-160-C	10	5.6	Fine
HS-53-C-SF	1/2	7/32	SF	MHS-162-C	12	5.6	Fine
<b>5/8" Dia - Counter Bored for #8 SHCS</b>				<b>20mm Dia - Counter Bored for M5 SHCS</b>			
HS-62-C	3/8	7/32	Fine	MHS-200-C	10	6.6	Fine
HS-62-C-EF	3/8	7/32	EF	MHS-202-C	12	6.6	Fine
HS-625-C	1/2	7/32	Fine	<b>25mm Dia - Counter Bored for M6 SHCS</b>			
HS-625-C-EF	1/2	7/32	EF	MHS-250-C	10	7.6	Fine
<b>3/4" Dia - Counter Bored for #10 SHCS</b>				MHS-252-C	12	7.6	Fine
HS-75-C	3/8	1/4	Fine				
HS-75-C-EF	3/8	1/4	EF				
HS-755-C	1/2	1/4	Fine				
HS-755-C-EF	1/2	1/4	EF				
HS-76-C	3/8	1/4	Coarse				
HS-765-C	1/2	5/16	Coarse				
<b>1" Dia - Counter Bored for 1/4" SHCS</b>							
HS-81-C	1/2	5/16	Coarse				
HS-82-C	1/2	5/16	Fine				
HS-82-C-EF	1/2	5/16	EF				

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## Square Style Tool Steel – Serrated – Tapped Hole – Inch & Metric



Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Thru-hole tap. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

### INCH

Part Number	B Height	Tooth Pattern
<b>3/8" Square - #10-32 Tap</b>		
HS-90	3/8	EF
HS-90-SF	3/8	SF
HS-905	1/2	EF
HS-905-SF	1/2	SF

Part Number	B Height	Tooth Pattern
<b>1/2" Square - #10-32 Tap</b>		
HS-95	3/8	Fine
HS-95-EF	3/8	EF
HS-95-SF	3/8	SF
HS-955	1/2	Fine
HS-955-EF	1/2	EF
HS-955-SF	1/2	SF
HS-96	3/8	Coarse
HS-965	1/2	Coarse

Part Number	B Height	Tooth Pattern
<b>5/8" Square - #10-32 Tap</b>		
HS-962	3/8	Fine
HS-962-EF	3/8	EF
HS-963	3/8	Coarse
HS-9625	1/2	Fine
HS-9625-EF	1/2	EF
HS-9635	1/2	Coarse

Part Number	B Height	Tooth Pattern
<b>3/4" Square - #10-32 Tap</b>		
HS-97	3/8	Fine
HS-97-EF	3/8	EF
HS-98	3/8	Coarse
HS-975	1/2	Fine
HS-975-EF	1/2	EF
HS-985	1/2	Coarse

Part Number	B Height	Tooth Pattern
<b>1" Square - 1/4-28 Tap</b>		
HS-101	3/8	Fine
HS-101-EF	3/8	EF
HS-102	3/8	Coarse
HS-105	1/2	Fine
HS-105-EF	1/2	EF
HS-106	1/2	Coarse

### METRIC

Part Number	B Height	Tooth Pattern
<b>10mm Square - M5x0.8 Tap</b>		
MHS-9100	10	EF
MHS-9102	12	EF

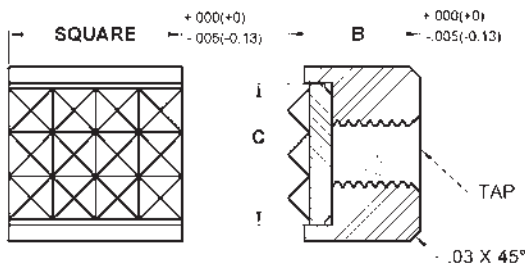
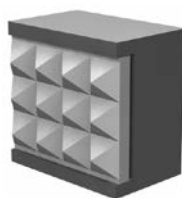
Part Number	B Height	Tooth Pattern
<b>12mm Square - M5x0.8 Tap</b>		
MHS-9120	10	Fine
MHS-9122	12	Fine

Part Number	B Height	Tooth Pattern
<b>16mm Square - M6x1.0 Tap</b>		
MHS-9160	10	Fine
MHS-9162	12	Fine

Part Number	B Height	Tooth Pattern
<b>20mm Square - M5x0.8 Tap</b>		
MHS-9200	10	Fine
MHS-9202	12	Fine

Part Number	B Height	Tooth Pattern
<b>25mm Square - M6x1.0 Tap</b>		
MHS-9250	10	Fine
MHS-9252	12	Fine

## Square Style Carbide Tipped – Serrated – Tapped Hole – Inch & Metric



Constructed with a serrated carbide gripper pad brazed to a heat treated alloy steel body. Blind-hole tap for back side mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

### INCH

Part Number	B Height	C	Tooth Pattern
<b>1/2" Square - #10-32 Tap</b>			
CT-870	3/8	13/32	Fine
CT-870-EF	3/8	13/32	EF
CT-875	1/2	13/32	Fine
CT-875-EF	1/2	13/32	EF

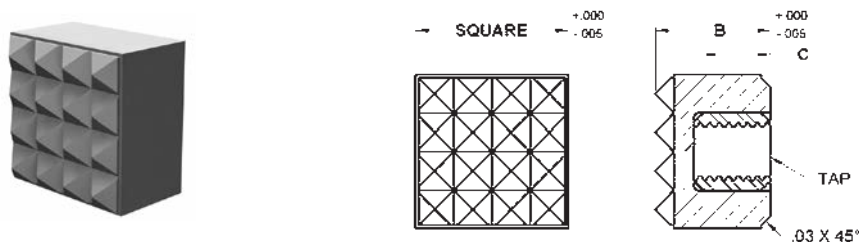
### INCH SQUARE WITH METRIC THREADS

Part Number	B Height	C	Tooth Pattern
<b>1/2" Square - M6x1.0 Tap</b>			
MCT-870-EF	3/8	13/32	EF

### METRIC

Part Number	B Height	C	Tooth Pattern
<b>12mm Square - M5x0.8 Tap</b>			
MCT-9120	10	13/32	Fine
MCT-9122	12	13/32	Fine

## Square Style Solid Carbide – Serrated – Tapped Hole – Inch



Made from solid carbide for high wear and high load applications. Serrated for positive holding in tough applications. Blind-hole tap for back side mounting. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

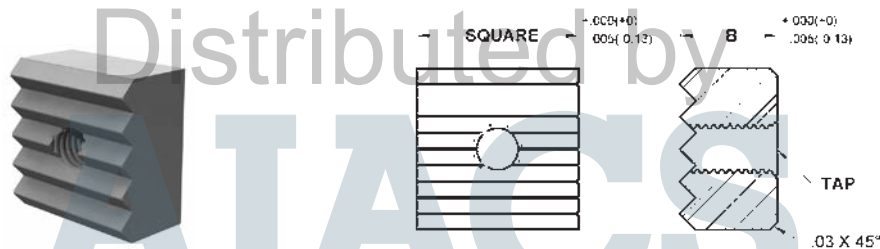
**INCH**

Part Number	B Height	C Tap Depth	Tooth Pattern
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**1/2" Square - #10-32 Tap**

FSC-870	3/8	3/16	Fine
FSC-875	1/2	5/16	Fine

## Square Style Tool Steel – Straight Serrations – Tapped Hole – Inch



Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Thru-hole tap. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	Tooth Pattern
-------------	----------	---------------

**3/8" Square - #10-32 Tap**

HS-90-SS	3/8	EF
HS-90-SS-SF	3/8	SF
HS-905-SS	1/2	EF
HS-905-SS-SF	1/2	SF

**1/2" Square - #10-32 Tap**

HS-95-SS	3/8	Fine
HS-95-SS-EF	3/8	EF
HS-95-SS-SF	3/8	SF
HS-955-SS	1/2	Fine
HS-955-SS-EF	1/2	EF
HS-955-SS-SF	1/2	SF
HS-96-SS	3/8	Coarse
HS-965-SS	1/2	Coarse

Part Number	B Height	Tooth Pattern
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**5/8" Square - #10-32 Tap**

HS-962-SS	3/8	Fine
HS-962-SS-EF	3/8	EF
HS-9625-SS	1/2	Fine
HS-9625-SS-EF	1/2	EF
HS-963-SS	3/8	Coarse
HS-9635-SS	1/2	Coarse

**3/4" Square - #10-32 Tap**

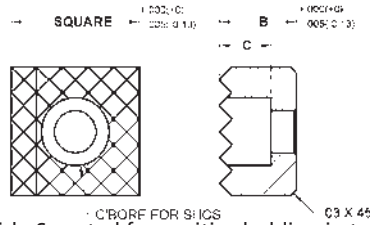
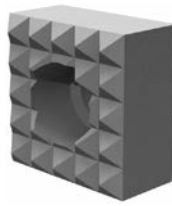
HS-97-SS	3/8	Fine
HS-97-SS-EF	3/8	EF
HS-975-SS	1/2	Fine
HS-975-SS-EF	1/2	EF
HS-98-SS	3/8	Coarse
HS-985-SS	1/2	Coarse

Part Number	B Height	Tooth Pattern
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**1" Square - 1/4-28 Tap**

HS-101-SS	3/8	Fine
HS-101-SS-EF	3/8	EF
HS-102-SS	3/8	Coarse
HS-105-SS	1/2	Fine
HS-105-SS-EF	1/2	EF
HS-106-SS	1/2	Coarse

**Square Style** Tool Steel – Serrated – Counter Bored Hole – Inch & Metric



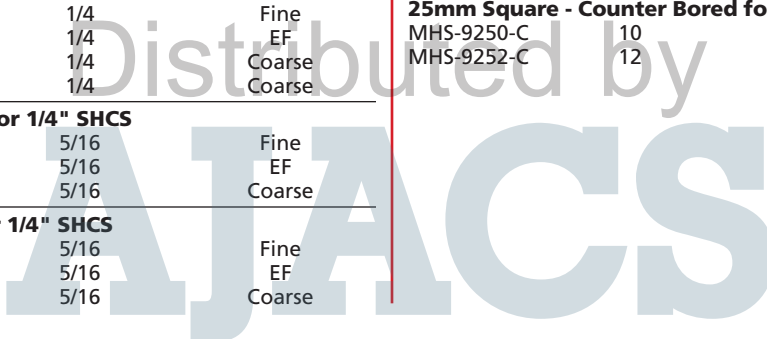
Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Counter bored hole for front mounting with a socket head cap screw. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	C C'Bores Depth	Tooth Pattern
<b>1/2" Square - Counter Bored for #10 SHCS</b>			
HS-92-C	3/8	1/4	Fine
HS-92-C-EF	3/8	1/4	EF
HS-92-C-SF	3/8	1/4	SF
HS-95-C	1/2	1/4	Fine
HS-95-C-EF	1/2	1/4	EF
HS-95-C-SF	1/2	1/4	SF
<b>5/8" Square - Counter Bored for #10 SHCS</b>			
HS-962-C	3/8	1/4	Fine
HS-962-C-EF	3/8	1/4	EF
HS-9625-C	1/2	1/4	Fine
HS-9625-C-EF	1/2	1/4	EF
HS-963-C	3/8	1/4	Coarse
HS-9635-C	1/2	1/4	Coarse
<b>3/4" Square - Counter Bored for 1/4" SHCS</b>			
HS-97-C	1/2	5/16	Fine
HS-97-C-EF	1/2	5/16	EF
HS-98-C	1/2	5/16	Coarse
<b>1" Square - Counter Bored for 1/4" SHCS</b>			
HS-101-C	1/2	5/16	Fine
HS-101-C-EF	1/2	5/16	EF
HS-102-C	1/2	5/16	Coarse

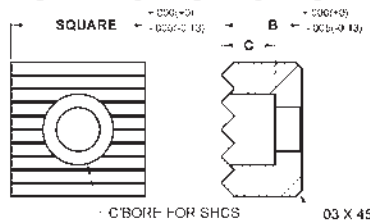
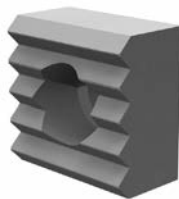
**METRIC**

Part Number	B Height	C C'Bores Depth	Tooth Pattern
<b>12mm Square - Counter Bored for M4 SHCS</b>			
MHS-9120-C	10	5.6	Fine
MHS-9122-C	12	5.6	Fine
<b>16mm Square - Counter Bored for M4 SHCS</b>			
MHS-9160-C	10	5.6	Fine
MHS-9162-C	12	5.6	Fine
<b>20mm Square - Counter Bored for M5 SHCS</b>			
MHS-9200-C	10	6.6	Fine
MHS-9202-C	12	6.6	Fine
<b>25mm Square - Counter Bored for M6 SHCS</b>			
MHS-9250-C	10	7.6	Fine
MHS-9252-C	12	7.6	Fine



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**Square Style** Tool Steel – Straight Serrations – Counter Bored Hole – Inch



Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated for positive holding in tough applications. Counter bored hole for front mounting with a socket head cap screw. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

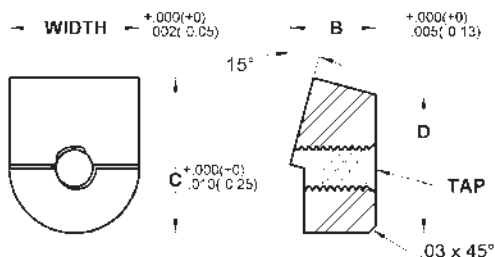
**INCH**

Part Number	B Height	C C'Bores Depth	Tooth Pattern
<b>1/2" Square - Counter Bored for #10 SHCS</b>			
HS-92-C-SS	3/8	1/4	Fine
HS-92-C-SS-EF	3/8	1/4	EF
HS-92-C-SS-SF	3/8	1/4	SF
HS-95-C-SS	1/2	1/4	Fine
HS-95-C-SS-EF	1/2	1/4	EF
HS-95-C-SS-SF	1/2	1/4	SF
<b>5/8" Square - Counter Bored for #10 SHCS</b>			
HS-962-C-SS	3/8	1/4	Fine
HS-962-C-SS-EF	3/8	1/4	EF
HS-9625-C-SS	1/2	1/4	Fine
HS-9625-C-SS-EF	1/2	1/4	EF
HS-963-C-SS	3/8	1/4	Coarse
HS-9635-C-SS	1/2	1/4	Coarse

**METRIC**

Part Number	B Height	C C'Bores Depth	Tooth Pattern
<b>3/4" Square - Counter Bored for 1/4" SHCS</b>			
HS-97-C-SS	1/2	5/16	Fine
HS-97-C-SS-EF	1/2	5/16	EF
HS-98-C-SS	1/2	5/16	Coarse
<b>1" Square - Counter Bored for 1/4" SHCS</b>			
HS-101-C-SS	1/2	5/16	Fine
HS-101-C-SS-EF	1/2	5/16	EF
HS-102-C-SS	1/2	5/16	Coarse

**Angled Style Tool Steel – Tapped – Inch & Metric**

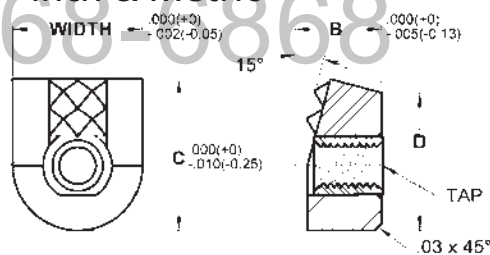


Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Serrated and smooth styles available. Grippers are angled at 15 degrees to fit Woodworth, Maxi-Grip, and Ultra-Grip rocker style chucks. Thru-hole tap. See page 6 for tooth pattern specifications.

INCH				
Part Number	B	C	D	Tooth Pattern
<b>9/16" Width - #10-32 Tap</b>				
HS-110	3/8	.65	.60	Smooth
HS-127-4	3/8	.65	.60	4 Point
HS-127-12	3/8	.65	.60	Fine
HS-130-4	3/8	.65	.60	Straight
HS-145-5	3/8	.65	.60	Angular
HS-150-3	3/8	.65	.60	3 Point/90°ST
<b>9/16" Width - M5x0.8 Tap</b>				
MHS-110	3/8	.65	.60	Smooth
MHS-127-4	3/8	.65	.60	4 Point
MHS-127-12	3/8	.65	.60	Fine
MHS-130-4	3/8	.65	.60	Straight
MHS-145-5	3/8	.65	.60	Angular
MHS-150-3	3/8	.65	.60	3 Point/90°ST
<b>3/4" Width - 1/4-28 Tap</b>				
HS-128-4	1/2	.88	.81	4 Point
HS-128-22	1/2	.88	.81	Fine
HS-158-3	1/2	.88	.81	3 Point/90°ST

METRIC				
Part Number	B	C	D	Tooth Pattern
<b>10mm Width - #10-32 Tap</b>				
HS-110-10MM	3/8	.65	.60	Smooth
HS-127-4-10MM	3/8	.65	.60	4 Point
HS-130-4-10MM	3/8	.65	.60	Straight
HS-145-5-10MM	3/8	.65	.60	Angular
HS-150-3-10MM	3/8	.65	.60	3 Point/90°ST
<b>10mm Width - M5x0.8 Tap</b>				
MHS-110-10MM	3/8	.65	.60	Smooth
MHS-127-4-10MM	3/8	.65	.60	4 Point
MHS-130-4-10MM	3/8	.65	.60	Straight
MHS-145-5-10MM	3/8	.65	.60	Angular
MHS-150-3-10MM	3/8	.65	.60	3 Point/90°ST

**Angled Style Solid Carbide – Tapped – Inch & Metric**

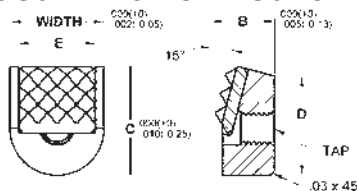


Made from solid carbide for high wear and high load applications. Serrated for positive holding in tough applications. Grippers are angled at 15 degrees to fit Woodworth, Maxi-Grip, and Ultra-Grip rocker style chucks. Thru-hole tap. See page 6 for tooth pattern specifications.

INCH				
Part Number	B	C	D	Tooth Pattern
<b>9/16" Width - #10-32 Tap</b>				
FSC-127-4	3/8	.65	.60	4 Point
FSC-127-10	3/8	.65	.60	Fine
FSC-130-4	3/8	.65	.60	Straight
FSC-145-5	3/8	.65	.60	Angular
<b>9/16" Width - M5x0.8 Tap</b>				
MFSC-127-4	3/8	.65	.60	4 Point
MFSC-127-10	3/8	.65	.60	Fine
MFSC-130-4	3/8	.65	.60	Straight
MFSC-145-5	3/8	.65	.60	Angular

METRIC				
Part Number	B	C	D	Tooth Pattern
<b>10mm Width - #10-32 Tap</b>				
FSC-127-4-10MM	3/8	.65	.60	4 Point
FSC-130-2-10MM	3/8	.65	.60	Straight
<b>10mm Width - M5x0.8 Tap</b>				
MFSC-127-4-10MM	3/8	.65	.60	4 Point
MFSC-130-2-10MM	3/8	.65	.60	Straight

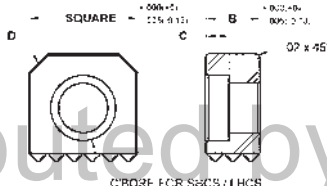
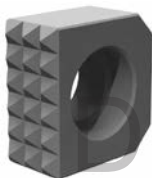
**Angled Style Carbide Tipped – Tapped – Inch & Metric**



Constructed with a serrated carbide gripper pad brazed to a heat treated alloy steel body. Serrated for positive holding in tough applications. Grippers are angled at 15 degrees to fit Woodworth, Maxi-Grip, and Ultra-Grip rocker style chucks. Thru-hole tap. See page 6 for tooth pattern specifications.

INCH						INCH WITH METRIC THREADS					
Part Number	B	C	D	E	Tooth Pattern	Part Number	B	C	D	E	Tooth Pattern
<b>9/16" Width - #10-32 Tap</b>						<b>9/16" Width - M5x0.8 Tap</b>					
CT-127-4	3/8	.65	.60	15/32	4 Point	MCT-127-4	3/8	.65	.60	15/32	4 Point
CT-127-12	3/8	.65	.60	15/32	Fine	MCT-127-12	3/8	.65	.60	15/32	Fine
CT-130-4	3/8	.65	.60	15/32	Straight	MCT-130-4	3/8	.65	.60	15/32	Straight
CT-145-5	3/8	.65	.60	15/32	Angular	MCT-145-5	3/8	.65	.60	15/32	Angular

**Edge Style Tool Steel – Serrated – Counter Bored – Inch & Metric**

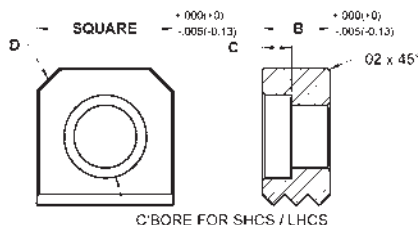
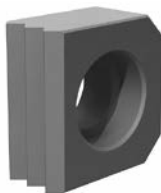


Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Square edge grippers have serrations on one side. Counter bored hole for front mounting with a socket head or low head cap screw. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

INCH					
Part Number	B Height	C C'Bore Depth	D Chamfer	Tooth Pattern	
<b>3/8" Square - Counter Bored for #6 SHCS</b>					
HSE-902	1/4	.146	1/16 x 45°	EF	
HSE-902-SF	1/4	.146	1/16 x 45°	SF	
HSE-903	3/8	.146	1/16 x 45°	EF	
HSE-903-SF	3/8	.146	1/16 x 45°	SF	
HSE-905	1/2	.146	1/16 x 45°	EF	
HSE-905-SF	1/2	.146	1/16 x 45°	SF	
<b>1/2" Square - Counter Bored for #8 SHCS</b>					
HSE-952	1/4	.170	3/32 x 45°	Fine	
HSE-952-EF	1/4	.170	3/32 x 45°	EF	
HSE-952-SF	1/4	.170	3/32 x 45°	SF	
HSE-953	3/8	.175	3/32 x 45°	Fine	
HSE-953-EF	3/8	.175	3/32 x 45°	EF	
HSE-953-SF	3/8	.175	3/32 x 45°	SF	
HSE-955	1/2	.175	3/32 x 45°	Fine	
HSE-955-EF	1/2	.175	3/32 x 45°	EF	
HSE-955-SF	1/2	.175	3/32 x 45°	SF	
<b>5/8" Square - Counter Bored for 1/4" LHCS</b>					
HSE-962	1/4	.130	1/8 x 45°	Fine	
HSE-962-EF	1/4	.130	1/8 x 45°	EF	
HSE-963	3/8	.130	1/8 x 45°	Fine	
HSE-963-EF	3/8	.130	1/8 x 45°	EF	
HSE-965	1/2	.130	1/8 x 45°	Fine	
HSE-965-EF	1/2	.130	1/8 x 45°	EF	
<b>3/4" Square - Counter Bored for 5/16" LHCS</b>					
HSE-972	1/4	.161	1/8 x 45°	Fine	
HSE-972-EF	1/4	.161	1/8 x 45°	EF	
HSE-973	3/8	.161	1/8 x 45°	Fine	
HSE-973-EF	3/8	.161	1/8 x 45°	EF	
HSE-975	1/2	.161	1/8 x 45°	Fine	
HSE-975-EF	1/2	.161	1/8 x 45°	EF	
<b>1" Square - Counter Bored for 3/8" LHCS</b>					
HSE-102	1/4	.194	1/8 x 45°	Fine	
HSE-102-EF	1/4	.194	1/8 x 45°	EF	
HSE-103	3/8	.194	1/8 x 45°	Fine	
HSE-103-EF	3/8	.194	1/8 x 45°	EF	
HSE-105	1/2	.194	1/8 x 45°	Fine	
HSE-105-EF	1/2	.194	1/8 x 45°	EF	

METRIC					
Part Number	B Height	C C'Bore Depth	D Chamfer	Tooth Pattern	
<b>10mm Square - Counter Bored for M3 SHCS</b>					
MHSE-9106	6	3.75	1.6 x 45°	EF	
MHSE-9100	10	3.75	1.6 x 45°	EF	
<b>12mm Square - Counter Bored for M4 SHCS</b>					
MHSE-9126	6	4.06	2.3 x 45°	Fine	
MHSE-9120	10	4.06	2.3 x 45°	Fine	
MHSE-9122	12	4.06	2.3 x 45°	Fine	
<b>16mm Square - Counter Bored for M6 LHCS</b>					
MHSE-9166	6	4.20	3.2 x 45°	Fine	
MHSE-9160	10	4.20	3.2 x 45°	Fine	
MHSE-9162	12	4.20	3.2 x 45°	Fine	
<b>20mm Square - Counter Bored for M8 LHCS</b>					
MHSE-9206	6	5.08	3.2 x 45°	Fine	
MHSE-9200	10	5.08	3.2 x 45°	Fine	
MHSE-9202	12	5.08	3.2 x 45°	Fine	
<b>25mm Square - Counter Bored for M10 LHCS</b>					
MHSE-9250	10	6.60	3.2 x 45°	Fine	
MHSE-9252	12	6.60	3.2 x 45°	Fine	

## Edge Style Tool Steel – Straight Serrations – Counter Bored – Inch & Metric



C'BORE FOR SHCS / LHCS

Made from M-2 high speed steel. Hardened to Rc 60/62 with black oxide finish. Square edge grippers have serrations on one side. Counter bored hole for front mounting with a socket head or low head cap screw. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

### INCH

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>3/8" Square - Counter Bored for #6 SHCS</b>				
HSE-902-SS	1/4	.200	1/16 x 45°	EF
HSE-902-SS-SF	1/4	.200	1/16 x 45°	SF
HSE-903-SS	3/8	.200	1/16 x 45°	EF
HSE-903-SS-SF	3/8	.200	1/16 x 45°	SF
HSE-905-SS	1/2	.200	1/16 x 45°	EF
HSE-905-SS-SF	1/2	.200	1/16 x 45°	SF

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>1/2" Square - Counter Bored for #8 SHCS</b>				
HSE-952-SS	1/4	.220	3/32 x 45°	Fine
HSE-952-SS-EF	1/4	.220	3/32 x 45°	EF
HSE-952-SS-SF	1/4	.220	3/32 x 45°	SF
HSE-953-SS	3/8	.220	3/32 x 45°	Fine
HSE-953-SS-EF	3/8	.220	3/32 x 45°	EF
HSE-953-SS-SF	3/8	.220	3/32 x 45°	SF
HSE-955-SS	1/2	.220	3/32 x 45°	Fine
HSE-955-SS-EF	1/2	.220	3/32 x 45°	EF
HSE-955-SS-SF	1/2	.220	3/32 x 45°	SF

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>5/8" Square - Counter Bored for 1/4" LHCS</b>				
HSE-962-SS	1/4	.130	1/8 x 45°	Fine
HSE-962-SS-EF	1/4	.130	1/8 x 45°	EF
HSE-963-SS	3/8	.130	1/8 x 45°	Fine
HSE-963-SS-EF	3/8	.130	1/8 x 45°	EF
HSE-965-SS	1/2	.130	1/8 x 45°	Fine
HSE-965-SS-EF	1/2	.130	1/8 x 45°	EF

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>3/4" Square - Counter Bored for 5/16" LHCS</b>				
HSE-972-SS	1/4	.161	1/8 x 45°	Fine
HSE-972-SS-EF	1/4	.161	1/8 x 45°	EF
HSE-973-SS	3/8	.161	1/8 x 45°	Fine
HSE-973-SS-EF	3/8	.161	1/8 x 45°	EF
HSE-975-SS	1/2	.161	1/8 x 45°	Fine
HSE-975-SS-EF	1/2	.161	1/8 x 45°	EF

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>1" Square - Counter Bored for 3/8" LHCS</b>				
HSE-102-SS	1/4	.194	1/8 x 45°	Fine
HSE-102-SS-EF	1/4	.194	1/8 x 45°	EF
HSE-103-SS	3/8	.194	1/8 x 45°	Fine
HSE-103-SS-EF	3/8	.194	1/8 x 45°	EF
HSE-105-SS	1/2	.194	1/8 x 45°	Fine
HSE-105-SS-EF	1/2	.194	1/8 x 45°	EF

### METRIC

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>10mm Square - Counter Bored for M3 SHCS</b>				
MHSE-9106-SS	6	3.75	1.6 x 45°	EF
MHSE-9100-SS	10	3.75	1.6 x 45°	EF

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>12mm Square - Counter Bored for M4 SHCS</b>				
MHSE-9126-SS	6	4.06	2.3 x 45°	Fine
MHSE-9120-SS	10	4.06	2.3 x 45°	Fine
MHSE-9122-SS	12	4.06	2.3 x 45°	Fine

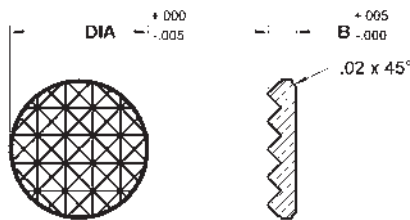
Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>16mm Square - Counter Bored for M6 LHCS</b>				
MHSE-9166-SS	6	4.2	3.2 x 45°	Fine
MHSE-9160-SS	10	4.2	3.2 x 45°	Fine
MHSE-9162-SS	12	4.2	3.2 x 45°	Fine

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>20mm Square - Counter Bored for M8 LHCS</b>				
MHSE-9206-SS	6	5.08	3.2 x 45°	Fine
MHSE-9200-SS	10	5.08	3.2 x 45°	Fine
MHSE-9202-SS	12	5.08	3.2 x 45°	Fine

Part Number	B Height	C C'Bores Depth	D Chamfer	Tooth Pattern
<b>25mm Square - Counter Bored for M10 LHCS</b>				
MHSE-9250-SS	10	6.6	3.2 x 45°	Fine
MHSE-9252-SS	12	6.6	3.2 x 45°	Fine



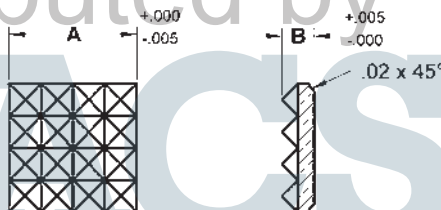
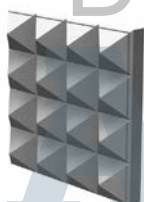
**Round Style Solid Carbide Pad – Serrated – No Hole – Inch**



Made from solid carbide for high wear resistance and serrated for additional gripping strength. Can be brazed or bonded in jigs, fixtures, clamps, etc. The bottom is chamfered for clearance in mounting pocket. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

INCH			INCH			INCH		
Part Number	B Height	Tooth Pattern	Part Number	B Height	Tooth Pattern	Part Number	B Height	Tooth Pattern
<b>1/4" Dia</b>			<b>7/16" Dia</b>			<b>5/8" Dia</b>		
CC-1	1/8	EF	CC-437	1/8	Fine	CC-5	1/8	Fine
CC-1-SF	1/8	SF	CC-437-EF	1/8	EF	CC-5-EF	1/8	EF
<b>5/16" Dia</b>			<b>1/2" Dia</b>			<b>3/4" Dia</b>		
CC-2	1/8	EF	CC-4	1/8	Fine	CC-6	1/8	Fine
CC-2-SF	1/8	SF	CC-4-EF	1/8	EF	CC-6-EF	1/8	EF
CC-2-4	1/8	4 Point	CC-4-4	5/32	4 Point	CC-6X156-EF	5/32	EF
<b>3/8" Dia</b>						<b>1" Dia</b>		
CC-3	1/8	Fine				CC-8-EF	5/32	EF
CC-3-EF	1/8	EF						
CC-3-4	1/8	4 Point						

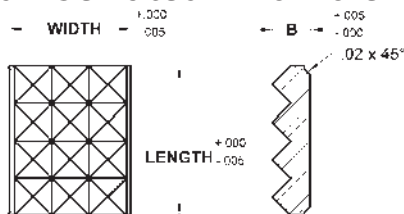
**Square Style Solid Carbide Pad – Serrated – No Hole – Inch**



Made from solid carbide for high wear resistance and serrated for additional gripping strength. Can be brazed or bonded in jigs, fixtures, clamps, etc. The bottom is chamfered for clearance in mounting pocket. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

INCH			INCH			INCH		
Part Number	B Height	Tooth Pattern	Part Number	B Height	Tooth Pattern	Part Number	B Height	Tooth Pattern
<b>3/8" Square</b>			<b>1/2" Square</b>			<b>3/4" Square</b>		
CS-3	1/8	Fine	CS-4	1/8	Fine	CS-6X125-EF	1/8	EF
CS-3-EF	1/8	EF	CS-4-EF	1/8	EF	CS-6-EF	5/32	EF
<b>5/8" Square</b>						<b>1" Square</b>		
			CS-5-EF	1/8	EF	CS-8-EF	5/32	EF

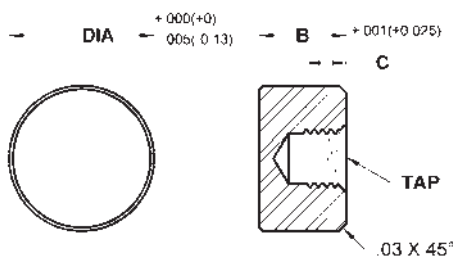
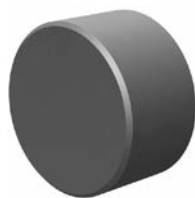
**Rectangle Style Solid Carbide Pad – Serrated – No Hole – Inch**



Made from solid carbide for high wear resistance and serrated for additional gripping strength. Can be brazed or bonded in jigs, fixtures, clamps, etc. The bottom is chamfered for clearance in mounting pocket. See page 6 for tooth pattern specifications. See page 7 for mounting specifications.

INCH			INCH			INCH		
Part Number	B Height	Tooth Pattern	Part Number	B Height	Tooth Pattern	Part Number	B Height	Tooth Pattern
<b>3/8" x 1/4" Rectangle</b>			<b>29/64" x 13/32" Rectangle</b>			<b>1" x 1/2" Rectangle</b>		
CR-2-EF	1/8	EF	CR-127-4	1/8	4 Point	CR-4-EF	3/16	EF
<b>1/2" x 13/32" Rectangle</b>			CR-127-12	1/8	Fine	CR-4	3/16	Saw Tooth
CR-870	1/8	Fine	CR-130-4	1/8	Straight	<b>1-1/2" x 3/4" Rectangle</b>		
CR-870-EF	1/8	EF	CR-145-5	1/8	Angular	CR-6	1/4	Saw Tooth
CR-870X156-EF	5/32	EF						

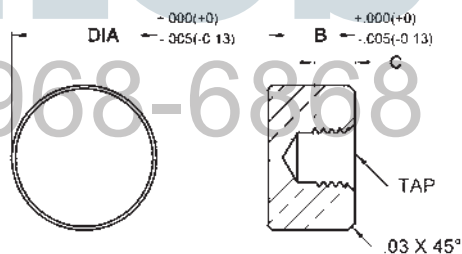
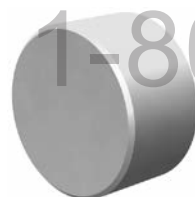
## Steel Tapped – Inch & Metric



Made from 8620 steel, carburized and hardened to Rc 58/60 with .050" case. Black oxide finish. Blind-hole tap for back side mounting. See page 7 for mounting specifications.

INCH			METRIC		
Part Number	B Height	C Tap Depth	Part Number	B Height	C Tap Depth
<b>5/16" Dia - #8-32 Tap</b>			<b>10mm Dia - M5x0.8 Tap</b>		
SRP-30	3/8	3/16	MSRP-100	10	5.0
SRP-305	1/2	5/16	MSRP-102	12	6.4
<b>3/8" Dia - #10-32 Tap</b>			<b>12mm Dia - M5x0.8 Tap</b>		
SRP-40	3/8	3/16	MSRP-120	10	5.0
SRP-405	1/2	5/16	MSRP-122	12	6.4
<b>1/2" Dia - #10-32 Tap</b>			<b>16mm Dia - M6x1.0 Tap</b>		
SRP-50	3/8	3/16	MSRP-160	10	5.0
SRP-53	1/2	5/16	MSRP-162	12	6.4
<b>5/8" Dia - 1/4-28 Tap</b>			<b>20mm Dia - M6x1.0 Tap</b>		
SRP-62	3/8	3/16	MSRP-200	10	5.0
SRP-625	1/2	5/16	MSRP-202	12	6.4
<b>3/4" Dia - 1/4-28 Tap</b>			<b>25mm Dia - M6x1.0 Tap</b>		
SRP-75	3/8	3/16	MSRP-250	10	5.0
SRP-755	1/2	5/16	MSRP-252	12	6.4
<b>1" Dia - 1/4-28 Tap</b>					
SRP-81	3/8	3/16			
SRP-815	1/2	5/16			

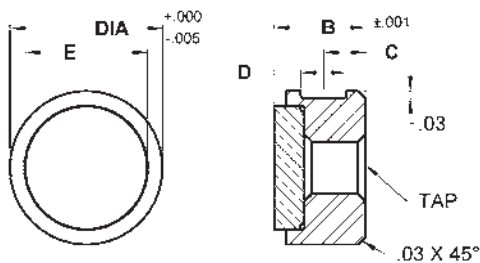
## Delrin Tapped – Inch & Metric



Made from white Delrin. Non-marring and non-absorbing. Blind-hole tap for back side mounting. See page 7 for mounting specifications.

INCH			METRIC		
Part Number	B Height	C Tap Depth	Part Number	B Height	C Tap Depth
<b>5/16" Dia - #8-32 Tap</b>			<b>10mm Dia - M5x0.8 Tap</b>		
DRP-30	3/8	3/16	MDRP-100	10	5.0
DRP-305	1/2	5/16	MDRP-102	12	6.4
<b>3/8" Dia - #10-32 Tap</b>			<b>12mm Dia - M5x0.8 Tap</b>		
DRP-40	3/8	3/16	MDRP-120	10	5.0
DRP-405	1/2	5/16	MDRP-122	12	6.4
<b>1/2" Dia - #10-32 Tap</b>			<b>16mm Dia - M6x1.0 Tap</b>		
DRP-50	3/8	3/16	MDRP-160	10	5.0
DRP-53	1/2	5/16	MDRP-162	12	6.4
<b>5/8" Dia - 1/4-28 Tap</b>			<b>20mm Dia - M6x1.0 Tap</b>		
DRP-62	3/8	3/16	MDRP-200	10	5.0
DRP-625	1/2	5/16	MDRP-202	12	6.4
<b>3/4" Dia - 1/4-28 Tap</b>			<b>25mm Dia - M6x1.0 Tap</b>		
DRP-75	3/8	3/16	MDRP-250	10	5.0
DRP-755	1/2	5/16	MDRP-252	12	6.4
<b>1" Dia - 1/4-28 Tap</b>					
DRP-81	3/8	3/16			
DRP-815	1/2	5/16			

**Carbide Tipped** Tapped – Inch

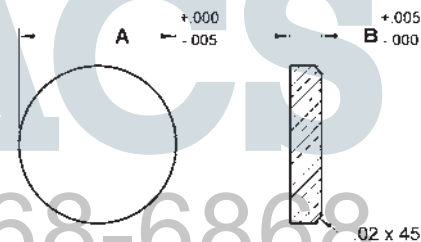


Constructed with a carbide pad brazed to a heat treated alloy steel body for better wear. Black oxide finish. Blind-hole tap for back side mounting. Flat on O.D. for set screw mounting. See page 7 for mounting specifications.

INCH				
Part Number	B Height	C Flat Pos.	D Flat Width	E Pad Dia.
<b>3/8" Dia - #10-32 Tap</b>				
CRP-40	3/8	11/64	3/16	5/16
CRP-405	1/2	15/64	3/16	5/16
<b>1/2" Dia - #10-32 Tap</b>				
CRP-50	3/8	11/64	3/16	3/8
CRP-53	1/2	15/64	3/16	3/8
<b>5/8" Dia - 1/4-28 Tap</b>				
CRP-62	3/8	11/64	3/16	1/2
CRP-625	1/2	15/64	3/16	1/2
<b>3/4" Dia - 1/4-28 Tap</b>				
CRP-75	3/8	11/64	3/16	5/8
CRP-755	1/2	15/64	3/16	5/8
<b>1" Dia - 1/4-28 Tap</b>				
CRP-81	3/8	11/64	3/16	3/4

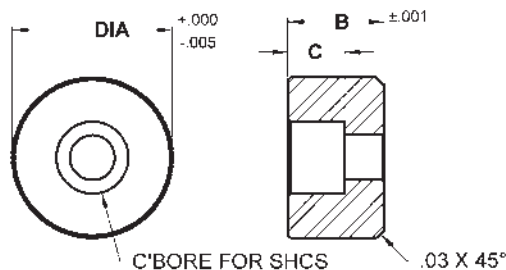
Distributed by

**Solid Carbide** No Hole – Inch



Made from solid carbide for high wear resistance. Can be brazed or bonded in jigs, fixtures, clamps, etc. The bottom is chamfered for clearance in mounting pocket. See page 7 for mounting specifications.

INCH		
Part Number	A Dia.	B Height
CC-1F	1/4	1/8
CC-2F	5/16	1/8
CC-3F	3/8	1/8
CC-4F	1/2	1/8
Part Number	A Dia.	B Height
CC-5F	5/8	1/8
CC-6F	3/4	1/8
CC-8F	1	5/32

**Steel** Counter Bored – Inch

Made from 8620 steel, carburized and hardened to Rc 58/60 with .050" case. Black oxide finish. Counter bored hole for front mounting with a socket head cap screw. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	C C'Bore Depth
-------------	----------	----------------

**3/8" Dia - Counter Bored for #6 SHCS**

SRP-40-C	3/8	3/16
SRP-405-C	1/2	3/16

**1/2" Dia - Counter Bored for #8 SHCS**

SRP-50-C	3/8	7/32
SRP-53-C	1/2	7/32

**5/8" Dia - Counter Bored for #8 SHCS**

SRP-62-C	3/8	7/32
SRP-625-C	1/2	7/32

Part Number	B Height	C C'Bore Depth
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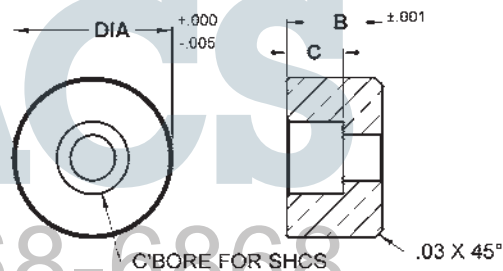
**3/4" Dia - Counter Bored for #10 SHCS**

SRP-75-C	3/8	1/4
SRP-755-C	1/2	1/4

**1" Dia - Counter Bored for 1/4" SHCS**

SRP-81-C	3/8	9/32
SRP-815-C	1/2	9/32

Distributed by

**Delrin** Counter Bored – Inch

Made from white Delrin. Non-marring and non-absorbing. Counter bored hole for front mounting with a socket head cap screw. See page 7 for mounting specifications.

**INCH**

Part Number	B Height	C C'Bore Depth
-------------	----------	----------------

**3/8" Dia - Counter Bored for #6 SHCS**

DRP-40-C	3/8	3/16
DRP-405-C	1/2	3/16

**1/2" Dia - Counter Bored for #8 SHCS**

DRP-50-C	3/8	7/32
DRP-53-C	1/2	7/32

**5/8" Dia - Counter Bored for #8 SHCS**

DRP-62-C	3/8	7/32
DRP-625-C	1/2	7/32

Part Number	B Height	C C'Bore Depth
-------------	----------	----------------

**3/4" Dia - Counter Bored for #10 SHCS**

DRP-75-C	3/8	1/4
DRP-755-C	1/2	1/4

**1" Dia - Counter Bored for 1/4" SHCS**

DRP-81-C	3/8	9/32
DRP-815-C	1/2	9/32

**Hex Head Style Carbide Tipped – Inch & Metric**



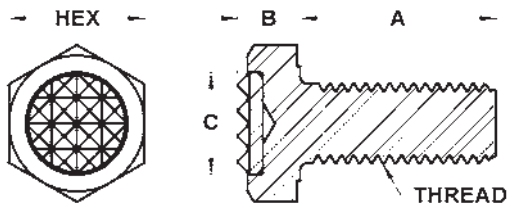
The threaded body allows the user to adjust the height of the gripper. The serrated carbide tip provides positive holding and wear resistance. The body is made from a Grade 8 fastener (metric are 10.9) with a black oxide finish. The serrated carbide pad is brazed onto a pocket in the head. See page 6 for tooth pattern specifications.

**INCH**

Part Number	A Shank Length	B Thread Length	C Head Height	D Pad Dia.	Tooth Pattern
<b>1/4-20 Threads - 7/16" Hex</b>					
CTH-0200	1/2	1/2	13/64	5/16	EF
CTH-0250	1	7/8	13/64	5/16	EF
CTHF-0250	1	1	13/64	5/16	EF
CTH-0250 X 1.5	1-1/2	7/8	13/64	5/16	EF
CTHF-0250 X 1.5	1-1/2	1-1/2	13/64	5/16	EF
<b>1/4-28 Threads - 7/16" Hex</b>					
CTH-0280	1/2	1/2	13/64	5/16	EF
CTH-0281	1	7/8	13/64	5/16	EF
CTHF-0281	1	1	13/64	5/16	EF
CTH-0281 X 1.5	1-1/2	7/8	13/64	5/16	EF
CTHF-0281 X 1.5	1-1/2	1-1/2	13/64	5/16	EF
<b>5/16-18 Threads - 1/2" Hex</b>					
CTH-0310	1/2	1/2	1/4	3/8	Fine
CTH-0310-EF	1/2	1/2	1/4	3/8	EF
CTH-0312	1	1	1/4	3/8	Fine
CTH-0312-EF	1	1	1/4	3/8	EF
CTH-0312 X 1.5	1-1/2	1	1/4	3/8	Fine
CTHF-0312 X 1.5	1-1/2	1-1/2	1/4	3/8	Fine
CTH-0312 X 1.5-EF	1-1/2	1	1/4	3/8	EF
CTHF-0312 X 1.5-EF	1-1/2	1-1/2	1/4	3/8	EF
<b>5/16-24 Threads - 1/2" Hex</b>					
CTH-0320	1/2	1/2	1/4	3/8	Fine
CTH-0320-EF	1/2	1/2	1/4	3/8	EF
CTH-0321	1	1	1/4	3/8	Fine
CTH-0321-EF	1	1	1/4	3/8	EF
CTH-0321 X 1.5	1-1/2	1	1/4	3/8	Fine
CTHF-0321 X 1.5	1-1/2	1-1/2	1/4	3/8	Fine
CTH-0321 X 1.5-EF	1-1/2	1	1/4	3/8	EF
CTHF-0321 X 1.5-EF	1-1/2	1-1/2	1/4	3/8	EF
<b>3/8-16 Threads - 9/16" Hex</b>					
CTH-0370	1/2	1/2	9/32	1/2	Fine
CTH-0370-EF	1/2	1/2	9/32	1/2	EF
CTH-0375	1	1	9/32	1/2	Fine
CTH-0375-EF	1	1	9/32	1/2	EF
CTH-0375 X 1.5	1-1/2	1-1/8	9/32	1/2	Fine
CTHF-0375 X 1.5	1-1/2	1-1/2	9/32	1/2	Fine
CTH-0375 X 1.5-EF	1-1/2	1-1/8	9/32	1/2	EF
CTHF-0375 X 1.5-EF	1-1/2	1-1/2	9/32	1/2	EF
<b>3/8-24 Threads - 9/16" Hex</b>					
CTH-0230	1/2	1/2	9/32	1/2	Fine
CTH-0230-EF	1/2	1/2	9/32	1/2	EF
CTH-0231	1	1	9/32	1/2	Fine
CTH-0231-EF	1	1	9/32	1/2	EF
CTH-0231 X 1.5	1-1/2	1-1/8	9/32	1/2	Fine
CTHF-0231 X 1.5	1-1/2	1-1/2	9/32	1/2	Fine
CTH-0231 X 1.5-EF	1-1/2	1-1/8	9/32	1/2	EF
CTHF-0231 X 1.5-EF	1-1/2	1-1/2	9/32	1/2	EF

Part Number	A Shank Length	B Thread Length	C Head Height	D Pad Dia.	Tooth Pattern
<b>1/2-13 Threads - 3/4" Hex</b>					
CTH-0510	1	1	23/64	5/8	Fine
CTH-0510-EF	1	1	23/64	5/8	EF
CTH-0515	1-1/2	1-1/2	23/64	5/8	Fine
CTH-0515-EF	1-1/2	1-1/2	23/64	5/8	EF
<b>1/2-20 Threads - 3/4" Hex</b>					
CTH-0240	1	1	23/64	5/8	Fine
CTH-0240-EF	1	1	23/64	5/8	EF
CTH-0500	1-1/2	1-1/2	23/64	5/8	Fine
CTH-0500-EF	1-1/2	1-1/2	23/64	5/8	EF
<b>5/8-11 Threads - 15/16" Hex</b>					
CTH-0625	1	1	7/16	3/4	Fine
CTH-0625-EF	1	1	7/16	3/4	EF
CTH-0625 X 2	2	1-1/2	7/16	3/4	Fine
CTHF-0625 X 2	2	2	7/16	3/4	Fine
CTH-0625 X 2-EF	2	1-1/2	7/16	3/4	EF
CTHF-0625 X 2-EF	2	2	7/16	3/4	EF
<b>5/8-18 Threads - 15/16" Hex</b>					
CTH-0620	1	1	7/16	3/4	Fine
CTH-0620-EF	1	1	7/16	3/4	EF
CTH-0620 X 2	2	1-1/2	7/16	3/4	Fine
CTHF-0620 X 2	2	2	7/16	3/4	Fine
CTH-0620 X 2-EF	2	1-1/2	7/16	3/4	EF
CTHF-0620 X 2-EF	2	2	7/16	3/4	EF
<b>3/4-10 Threads - 1-1/8" Hex</b>					
CTH-0755-EF	1	1	1/2	1	EF
CTH-0755 X 2.5-EF	2-1/2	1-3/4	1/2	1	EF
CTHF-0755 X 2.5-EF	2-1/2	2-1/2	1/2	1	EF
<b>3/4-16 Threads - 1-1/8" Hex</b>					
CTH-0750-EF	1	1	1/2	1	EF
CTH-0750 X 2.5-EF	2-1/2	1-3/4	1/2	1	EF
CTHF-0750 X 2.5-EF	2-1/2	2-1/2	1/2	1	EF

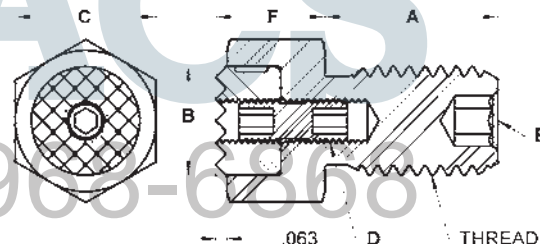
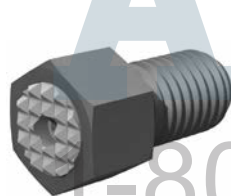
**Hex Head Style Carbide Tipped – Inch & Metric (continued)**



**METRIC**

Part Number	A Shank Length	B Head Height	C Pad Dia.	Tooth Pattern	Part Number	A Shank Length	B Head Height	C Pad Dia.	Tooth Pattern
<b>M6x1.00 Threads - 10mm Hex</b>					<b>M10x1.50 Threads - 17mm Hex</b>				
MCTH-06102	12	5	5/16	EF	MCTH-10152	12	7.5	1/2	Fine
MCTH-06100	25	5	5/16	EF	MCTH-10150	25	7.5	1/2	Fine
<b>M8x1.25 Threads - 13mm Hex</b>					<b>M12x1.75 Threads - 19mm Hex</b>				
MCTH-08122	12	6.4	3/8	Fine	MCTH-12175	25	8.7	5/8	Fine
MCTH-08125X16	16	6.4	3/8	Fine	MCTH-12175X40	40	8.7	5/8	Fine
MCTH-08125	25	6.4	3/8	Fine	<b>M16x2.00 Threads - 24mm Hex</b>				
MCTH-08125X35	35	6.4	3/8	Fine	MCTH-16200	35	11	3/4	Fine
<b>M10x1.25 Threads - 17mm Hex</b>					<b>M20x2.50 Threads - 30mm Hex</b>				
MCTH-10125	25	7.5	1/2	Fine	MCTH-20250	40	13.7	1	EF
MCTH-10125X40	40	7.5	1/2	Fine	MCTH-20250X60	60	13.7	1	EF

**AdjustaGrip™ Hex Head Replaceable Pad – Inch**

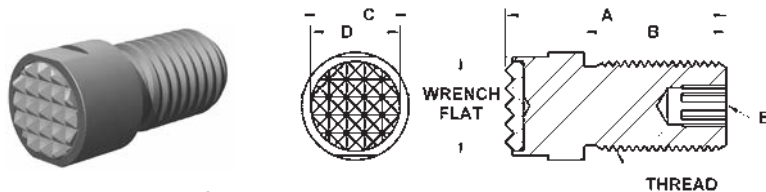


The replaceable gripper is held in place with a differential lock screw. The gripper can be replaced when worn or a different style gripper is required. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The parts listed below are for the housing unit and differential lock screw only and do not include a gripper. Grippers must be ordered separately. Use only with grippers that have a tapped through hole.

**INCH**

Part Number	A Thread Length	B Use With Gripper Dia.	C Hex	D Int. Tap	E Int. Hex	F Head Height	Part Number	A Thread Length	B Use With Gripper Dia.	C Hex	D Int. Tap	E Int. Hex	F Head Height
<b>3/8-16 Threads</b>							<b>5/8-11 Threads</b>						
AJH-0370	1/2	3/8	9/16	#10-32 L.H.	3/16	1/2	AJH-0625 X 1	1	5/8	13/16	1/4-28 L.H.	1/4	5/8
AJH-0375	1	3/8	9/16	#10-32 L.H.	1/8	1/2	AJH-0625 X 2	2	5/8	13/16	1/4-28 L.H.	1/4	5/8
AJH-0375 X 1.5	1-1/2	3/8	9/16	#10-32 L.H.	1/8	1/2	<b>5/8-18 Threads</b>						
<b>3/8-24 Threads</b>							AJH-0620 X 1	1	5/8	13/16	1/4-28 L.H.	1/4	5/8
AJH-0230	1/2	3/8	9/16	#10-32 L.H.	3/16	1/2	AJH-0620 X 2	2	5/8	13/16	1/4-28 L.H.	1/4	5/8
AJH-0231	1	3/8	9/16	#10-32 L.H.	1/8	1/2	<b>3/4-10 Threads</b>						
AJH-0231 X 1.5	1-1/2	3/8	9/16	#10-32 L.H.	1/8	1/2	AJH-0755 X 1	1	3/4	15/16	1/4-28 L.H.	5/16	5/8
<b>1/2-13 Threads</b>							AJH-0755 X 2.5	2-1/2	3/4	15/16	1/4-28 L.H.	5/16	5/8
AJH-0510	1	1/2	11/16	#10-32 L.H.	3/16	5/8	<b>3/4-16 Threads</b>						
AJH-0515	1-1/2	1/2	11/16	#10-32 L.H.	3/16	5/8	AJH-0750 X 1	1	3/4	15/16	1/4-28 L.H.	5/16	5/8
<b>1/2-20 Threads</b>							AJH-0750 X 2.5	2-1/2	3/4	15/16	1/4-28 L.H.	5/16	5/8
AJH-0240	1	1/2	11/16	#10-32 L.H.	3/16	5/8							
AJH-0500	1-1/2	1/2	11/16	#10-32 L.H.	3/16	5/8							

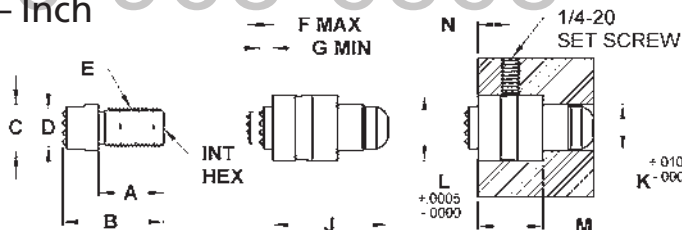
**Round Head Style Carbide Tipped – Inch**



The threaded body allows the user to adjust the height of the gripper. The serrated carbide tip provides positive holding and wear resistance. The round head allows for additional clearance and has wrench flats for easy adjustments. The internal hex allows for adjustment from the backside. The body is made from heat-treated alloy steel with a black oxide finish. The serrated carbide pad is brazed onto a pocket in the head. See page 6 for tooth pattern specifications.

INCH							INCH						
Part Number	A OAL	B Thread Length	C Dia.	D Pad Dia.	E Int. Hex	Tooth Pattern	Part Number	A OAL	B Thread Length	C Dia.	D Pad Dia.	E Int. Hex	Tooth Pattern
<b>3/8-16 Threads</b>							<b>5/8-11 Threads</b>						
AG-0370	15/16	9/16	1/2	3/8	1/8	Fine	AG-0625 X 1	1-9/16	1	3/4	5/8	1/4	Fine
AG-0370-EF	15/16	9/16	1/2	3/8	1/8	EF	AG-0625 X 1-EF	1-9/16	1	3/4	5/8	1/4	EF
AG-0375	1-3/8	1	1/2	3/8	1/8	Fine	AG-0625 X 2	2-9/16	2	3/4	5/8	1/4	Fine
AG-0375-EF	1-3/8	1	1/2	3/8	1/8	EF	AG-0625 X 2-EF	2-9/16	2	3/4	5/8	1/4	EF
AG-0375 X 1.5	1-7/8	1-1/2	1/2	3/8	1/8	Fine	<b>5/8-18 Threads</b>						
AG-0375 X 1.5-EF	1-7/8	1-1/2	1/2	3/8	1/8	EF	AG-0620 X 1	1-9/16	1	3/4	5/8	1/4	Fine
<b>3/8-24 Threads</b>							AG-0620 X 1-EF	1-9/16	1	3/4	5/8	1/4	EF
AG-0230	15/16	9/16	1/2	3/8	1/8	Fine	AG-0620 X 2	2-9/16	2	3/4	5/8	1/4	Fine
AG-0230-EF	15/16	9/16	1/2	3/8	1/8	EF	AG-0620 X 2-EF	2-9/16	2	3/4	5/8	1/4	EF
AG-0231	1-3/8	1	1/2	3/8	1/8	Fine	<b>3/4-10 Threads</b>						
AG-0231-EF	1-3/8	1	1/2	3/8	1/8	EF	AG-0755 X 1	1-9/16	1	7/8	3/4	5/16	Fine
AG-0231 X 1.5	1-7/8	1-1/2	1/2	3/8	1/8	Fine	AG-0755 X 1-EF	1-9/16	1	7/8	3/4	5/16	EF
AG-0231 X 1.5-EF	1-7/8	1-1/2	1/2	3/8	1/8	EF	AG-0755 X 2.5	3-1/16	2-1/2	7/8	3/4	5/16	Fine
<b>1/2-13 Threads</b>							AG-0755 X 2.5-EF	3-1/16	2-1/2	7/8	3/4	5/16	EF
AG-0510	1-3/8	7/8	5/8	1/2	3/16	Fine	<b>3/4-16 Threads</b>						
AG-0510-EF	1-3/8	7/8	5/8	1/2	3/16	EF	AG-0750 X 1	1-9/16	1	7/8	3/4	5/16	Fine
AG-0515	2-1/16	1-1/2	5/8	1/2	3/16	Fine	AG-0750 X 1-EF	1-9/16	1	7/8	3/4	5/16	EF
AG-0515-EF	2-1/16	1-1/2	5/8	1/2	3/16	EF	AG-0750 X 2.5	3-1/16	2-1/2	7/8	3/4	5/16	Fine
<b>1/2-20 Threads</b>							AG-0750 X 2.5-EF	3-1/16	2-1/2	7/8	3/4	5/16	EF
AG-0240	1-3/8	7/8	5/8	1/2	3/16	Fine							
AG-0240-EF	1-3/8	7/8	5/8	1/2	3/16	EF							
AG-0500	2-1/16	1-1/2	5/8	1/2	3/16	Fine							
AG-0500-EF	2-1/16	1-1/2	5/8	1/2	3/16	EF							

**AccuGrip™ Carbide Tipped – Inch**

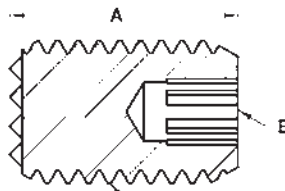
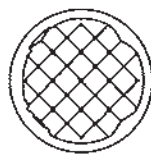


The Accugrip grippers are designed to fit into chuck jaws and allow the user to adjust the concentricity within the jaws. The complete Accugrip assembly consists of three components: Adjustable Gripper, Housing and Lock Screw. The housing is installed into the chuck jaws after the gripper assembly has been installed into the housing. The gripper assembly can be replaced when worn. The housing, gripper body and lock screw are made from heat-treated alloy steel. The gripper assembly is available with either a flat or serrated carbide tipped pad. The serrated grippers have fine serrations.

COMPLETE ACUGRIP ASSEMBLY									
Part Number	Tooth Pattern	A	B	C	D	E Thread	F Max	G Min	J
ACG-0230-F	Flat	17/32	15/16	.499	3/8	3/8-24	9/32	5/32	1
ACG-0230-S	Serrated	17/32	15/16	.499	3/8	3/8-24	9/32	5/32	1
ACG-0240-F	Flat	7/8	1-3/8	.624	1/2	1/2-20	5/16	3/16	1-9/16
ACG-0240-S	Serrated	7/8	1-3/8	.624	1/2	1/2-20	5/16	3/16	1-9/16

MOUNTING DIMENSIONS					REPLACEMENT PARTS		
Part Number	K	L	M	N	Gripper Assembly Only	Housing Only	Lockscrew Only
ACG-0230-F	1/2	.625	11/16	13/32	ACG-0230-1S	ACG-0230-2	ACG-0230-3
ACG-0230-S	1/2	.625	11/16	13/32	ACG-0230-1F	ACG-0230-2	ACG-0230-3
ACG-0240-F	21/32	.875	7/8	7/16	ACG-0240-1S	ACG-0240-2	ACG-0240-3
ACG-0240-S	21/32	.875	7/8	7/16	ACG-0240-1F	ACG-0240-2	ACG-0240-3

## Threaded Body Style Tool Steel – Inch & Metric



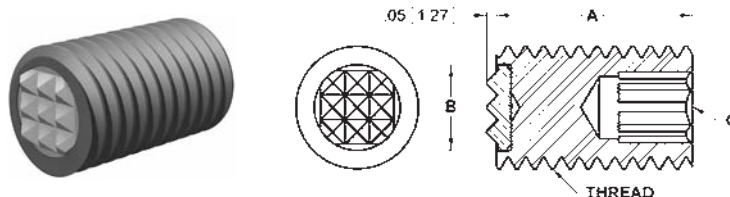
THREAD

The threaded body allows the user to adjust the position of the gripper. The internal hex allows for adjustment from the backside. The serrated gripper provides positive holding. Made from M-2 high speed steel and hardened to Rc 55/58 with a black oxide finish. See page 6 for tooth pattern specifications.

INCH							
Part Number	A Length	B Int. Hex	Tooth Pattern	Part Number	A Length	B Int. Hex	Tooth Pattern
<b>3/8-16 Threads</b>				<b>5/8-11 Threads</b>			
HS-0370	1/2	1/8	EF	HS-0625 X 1	1	1/4	Fine
HS-0371	1	1/8	EF	HS-0625	1-1/2	1/4	Fine
HS-0375	1-1/2	1/8	EF	<b>5/8-18 Threads</b>			
<b>3/8-24 Threads</b>				HS-0620 X 1			
HS-0230	1/2	1/8	EF	HS-0620	1-1/2	1/4	Fine
HS-0231	1	1/8	EF	<b>3/4-10 Threads</b>			
HS-0235	1-1/2	1/8	EF	HS-0755 X 1	1	5/16	Fine
<b>1/2-13 Threads</b>				HS-0755			
HS-0510	1	3/16	Fine	HS-0750 X 1	1	5/16	Fine
HS-0515	1-1/2	3/16	Fine	HS-0750	1-1/2	5/16	Fine
<b>1/2-20 Threads</b>				<b>3/4-16 Threads</b>			
HS-0240	1	3/16	Fine	Distributed by			
HS-0500	1-1/2	3/16	Fine	AJACS			
				1-800-963-6868			
METRIC							
Part Number	A Length	B Int. Hex	Tooth Pattern	Part Number	A Length	B Int. Hex	Tooth Pattern
<b>M10x1.50 Threads</b>				<b>M16x2.00 Threads</b>			
MHS-10150 X 25	25	3	EF	MHS-16200 X 25	25	6	Fine
MHS-10150 X 40	40	3	EF	MHS-16200 X 40	40	6	Fine
<b>M12x1.75 Threads</b>				<b>M20x2.50 Threads</b>			
MHS-12175 X 25	25	5	Fine	MHS-20250 X 25	25	8	Fine
MHS-12175 X 40	40	5	Fine	MHS-20250 X 40	40	8	Fine



**Threaded Body Style Carbide Tipped – Inch & Metric**



The threaded body allows the user to adjust the position of the gripper. The internal hex allows for adjustment from the backside. The serrated carbide tip provides positive holding and wear resistance. The body is made from alloy steel and hardened to Rc 43/46 with a black oxide finish. The serrated carbide pad is brazed onto a pocket in the head. See page 6 for tooth pattern specifications.

**INCH**

Part Number	A Thread Length	B Pad Dia.	C Int. Hex	Tooth Pattern
<b>3/8-16 Threads</b>				
PG-0370	1/2	1/4	3/16	EF
PG-0375	1	1/4	3/16	EF
PG-0375 X 2	2	1/4	3/16	EF
PG-0375 X 3	3	1/4	3/16	EF
<b>3/8-24 Threads</b>				
PG-0230	1/2	1/4	3/16	EF
PG-0231	1	1/4	3/16	EF
PG-0231 X 1.5	1-1/2	1/4	3/16	EF
PG-0231 X 2	2	1/4	3/16	EF
PG-0231 X 3	3	1/4	3/16	EF
<b>1/2-13 Threads</b>				
PG-0513	3/4	3/8	1/4	Fine
PG-0513-4	3/4	3/8	1/4	4 Point
PG-0513-EF	3/4	3/8	1/4	EF
PG-0510	1	3/8	1/4	Fine
PG-0510-EF	1	3/8	1/4	EF
PG-0510-4	1	3/8	1/4	4 Point
PG-0510 X 2	2	3/8	1/4	Fine
PG-0510 X 2-EF	2	3/8	1/4	EF
PG-0510 X 2-4	2	3/8	1/4	4 Point
PG-0510 X 3	3	3/8	1/4	Fine
PG-0510 X 3-EF	3	3/8	1/4	EF
PG-0510 X 3-4	3	3/8	1/4	4 Point
<b>1/2-20 Threads</b>				
PG-0503	3/4	3/8	1/4	Fine
PG-0503-4	3/4	3/8	1/4	4 Point
PG-0503-EF	3/4	3/8	1/4	EF
PG-0500	1	3/8	1/4	Fine
PG-0500-EF	1	3/8	1/4	EF
PG-0500-4	1	3/8	1/4	4 Point
PG-0500 X 2	2	3/8	1/4	Fine
PG-0500 X 2-EF	2	3/8	1/4	EF
PG-0500 X 2-4	2	3/8	1/4	4 Point
PG-0500 X 3	3	3/8	1/4	Fine
PG-0500 X 3-EF	3	3/8	1/4	EF
PG-0500 X 3-4	3	3/8	1/4	4 Point

Part Number	A Thread Length	B Pad Dia.	C Int. Hex	Tooth Pattern
<b>5/8-11 Threads</b>				
PG-0625	1	7/16	5/16	Fine
PG-0625-EF	1	7/16	5/16	EF
PG-0625-4	1	7/16	5/16	4 Point
PG-0625 X 2	2	7/16	5/16	Fine
PG-0625 X 2-EF	2	7/16	5/16	EF
PG-0625 X 2-4	2	7/16	5/16	4 Point
PG-0625 X 3	3	7/16	5/16	Fine
PG-0625 X 3-EF	3	7/16	5/16	EF
PG-0625 X 3-4	3	7/16	5/16	4 Point
<b>5/8-18 Threads</b>				
PG-0620	1	1/2	5/16	Fine
PG-0620-EF	1	1/2	5/16	EF
PG-0620-4	1	1/2	5/16	4 Point
PG-0620 X 1.75	1-3/4	1/2	5/16	Fine
PG-0620 X 1.75-EF	1 3/4	1/2	5/16	EF
PG-0620 X 1.75-4	1-3/4	1/2	5/16	4 Point
PG-0620 X 2	2	1/2	5/16	Fine
PG-0620 X 2-EF	2	1/2	5/16	EF
PG-0620 X 2-4	2	1/2	5/16	4 Point
PG-0620 X 3	3	1/2	5/16	Fine
PG-0620 X 3-EF	3	1/2	5/16	EF
PG-0620 X 3-4	3	1/2	5/16	4 Point
<b>3/4-10 Threads</b>				
PG-0755	1	1/2	3/8	Fine
PG-0755-EF	1	1/2	3/8	EF
PG-0755-4	1	1/2	3/8	4 Point
PG-0755 X 2	2	1/2	3/8	Fine
PG-0755 X 2-EF	2	1/2	3/8	EF
PG-0755 X 2-4	2	1/2	3/8	4 Point
PG-0755 X 3	3	1/2	3/8	Fine
PG-0755 X 3-EF	3	1/2	3/8	EF
PG-0755 X 3-4	3	1/2	3/8	4 Point
<b>3/4-16 Threads</b>				
PG-0750	1	1/2	3/8	Fine
PG-0750-EF	1	1/2	3/8	EF
PG-0750-4	1	1/2	3/8	4 Point
PG-0750 X 2	2	1/2	3/8	Fine
PG-0750 X 2-EF	2	1/2	3/8	EF
PG-0750 X 2-4	2	1/2	3/8	4 Point
PG-0750 X 3	3	1/2	3/8	Fine
PG-0750 X 3-EF	3	1/2	3/8	EF
PG-0750 X 3-4	3	1/2	3/8	4 Point

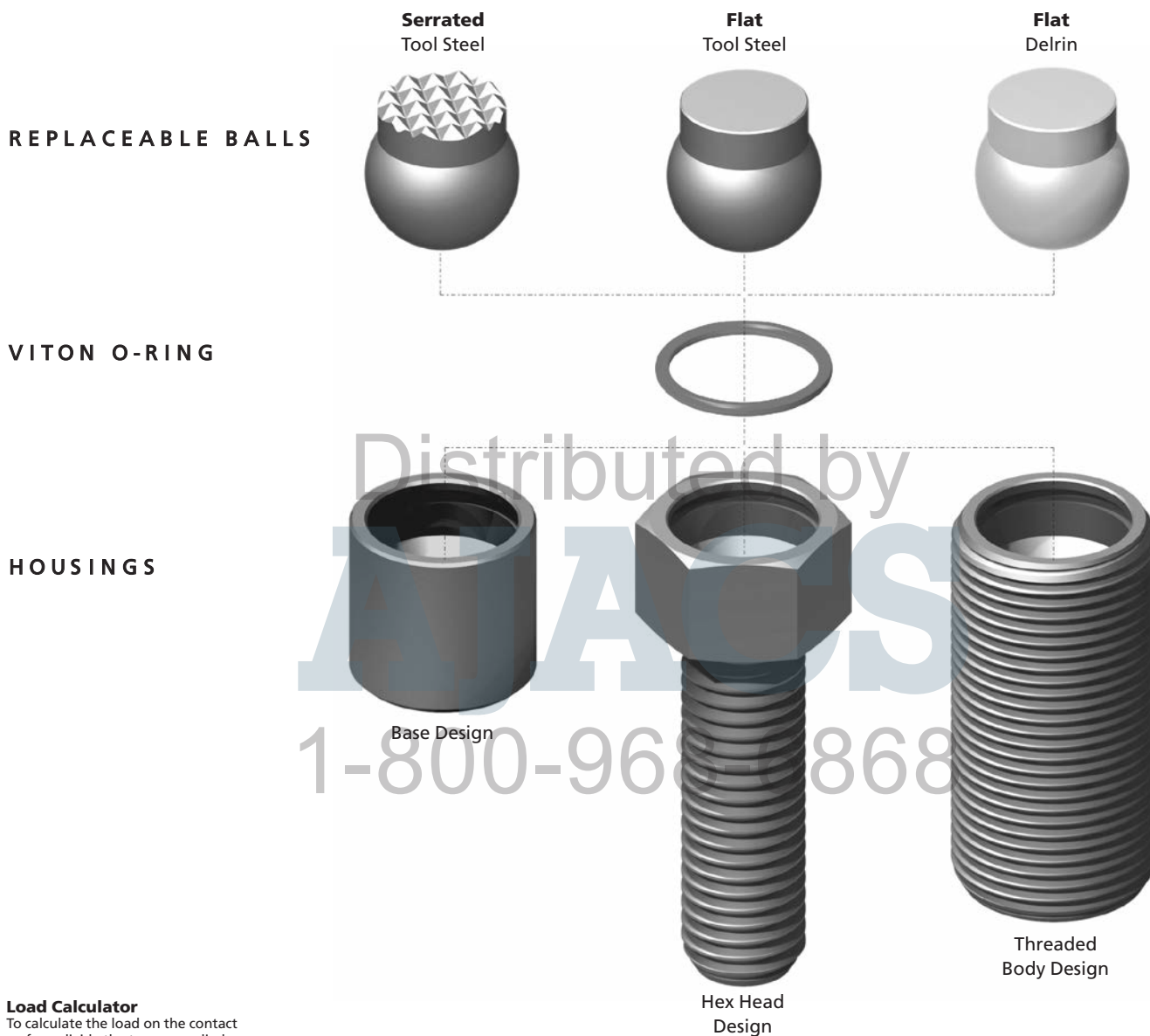
**METRIC**

Part Number	A Thread Length	B Pad Dia.	C Int. Hex	Tooth Pattern
<b>M10x1.50 Threads</b>				
MPG-10150	25	1/4	5	EF
MPG-10150 X 50	50	1/4	5	EF
<b>M12x1.75 Threads</b>				
MPG-12175-4	25	5/16	6	4 Point
MPG-12175	25	5/16	6	EF
MPG-12175 X 50-4	50	5/16	6	4 Point
MPG-12175 X 50	50	5/16	6	EF

Part Number	A Thread Length	B Pad Dia.	C Int. Hex	Tooth Pattern
<b>M16x2.00 Threads</b>				
MPG-16200-4	25	7/16	8	4 Point
MPG-16200	25	7/16	8	Fine
MPG-16200 X 50-4	50	7/16	8	4 Point
MPG-16200 X 50	50	7/16	8	Fine
<b>M20x2.50 Threads</b>				
MPG-20250-4	25	1/2	10	4 Point
MPG-20250	25	1/2	10	Fine
MPG-20250 X 50-4	50	1/2	10	4 Point
MPG-20250 X 50	50	1/2	10	Fine

# Swivots® Replaceable Swivel Ball Style

These Replaceable Ball Style Swivots® are found on the following pages.



## Load Calculator

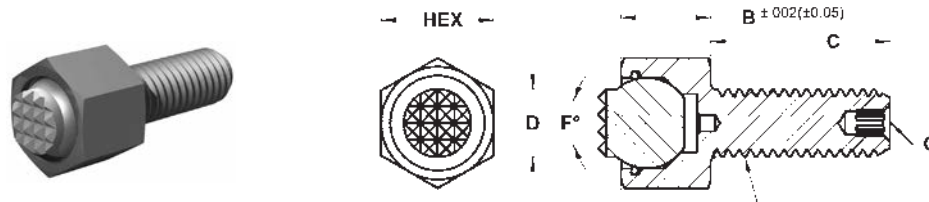
To calculate the load on the contact surface, divide the torque applied (in/lbs) by a factor shown below. Assumes no lubrication threaded into steel. Use as a guideline only.

Inch			
Thread	Factor	Thread	Factor
#10-24	0.036	1/2-13	0.093
#10-32	0.035	1/2-20	0.091
1/4-20	0.047	5/8-11	0.116
1/4-28	0.046	5/8-18	0.113
5/16-18	0.059	3/4-10	0.138
5/16-24	0.058	3/4-16	0.135
3/8-16	0.070	1-8	0.183
3/8-24	0.068	1-14	0.180

Metric			
Thread	Factor	Thread	Factor
M6x1.00	0.044	M16x2.00	0.116
M8x1.25	0.058	M20x2.50	0.144
M10x1.50	0.073	M24x3.00	0.173
M12x1.75	0.087		

- These Replaceable Ball Style Swivots are a modular component system that allows the ball to swivel, tilt, pivot, grip, hold, position or secure work pieces. The ball rotates 360 degrees and tilts at varying degrees in any direction from the centerline.
- The different housing styles allows for a variety of mounting options.
- These Replaceable Ball Style Swivots allow you to easily change the ball when worn or another style is needed for an application.
- Unique design prevents the ball from exceeding the specified degree of swivel - preventing the ball from rolling over in the housing.
- The ball is held in place with a Viton O-ring which allows the ball to be easily changed and keeps out dirt and contaminants.
- Replacement balls and O-rings can be ordered separately. It is recommended the O-ring be replaced when the ball is replaced. Please call for replacement parts.

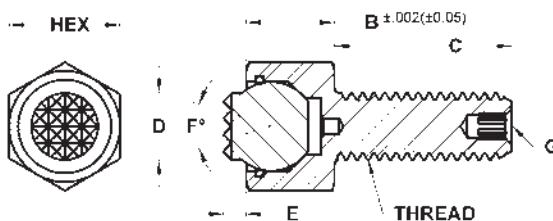
**Hex Head Tool Steel Ball – Serrated – Inch & Metric**



The replaceable serrated ball swivels to allow for self-alignment on uneven surfaces. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The replaceable ball is made from M-2 high speed steel heat treated to Rc 60/62. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components. See page 6 for tooth pattern specifications.

INCH										
Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int. Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>#10-24 Threads - 3/8" Hex Head</b>										
BUH-0124-S	1/4	1/2	5/32	1/16	28	—	3/16	BUB-187-S	SF	1,176
BUH-0124 X 1-S	1/4	1	5/32	1/16	28	—	3/16	BUB-187-S	SF	1,176
<b>#10-32 Threads - 3/8" Hex Head</b>										
BUH-0132-S	1/4	1/2	5/32	1/16	28	—	3/16	BUB-187-S	SF	1,176
BUH-0132 X 1-S	1/4	1	5/32	1/16	28	—	3/16	BUB-187-S	SF	1,176
<b>1/4-20 Threads - 7/16" Hex Head</b>										
BUH-0250-S	5/16	1/2	1/4	1/16	28	—	9/32	BUB-200-S	SF	2,441
BUH-0250-S-T	5/16	1/2	1/4	1/8	28	—	9/32	BUB-200-S-T	SF	2,441
BUH-0251-S	5/16	1	1/4	1/16	28	—	9/32	BUB-200-S	SF	2,441
BUH-0251-S-T	5/16	1	1/4	1/8	28	—	9/32	BUB-200-S-T	SF	2,441
BUH-0251 X 1.5-S	5/16	1-1/2	1/4	1/16	28	—	9/32	BUB-200-S	SF	2,441
BUH-0251 X 1.5-S-T	5/16	1-1/2	1/4	1/8	28	—	9/32	BUB-200-S-T	SF	2,441
<b>1/4-28 Threads - 7/16" Hex Head</b>										
BUH-0280-S	5/16	1/2	1/4	1/16	28	—	9/32	BUB-200-S	SF	2,441
BUH-0280-S-T	5/16	1/2	1/4	1/8	28	—	9/32	BUB-200-S-T	SF	2,441
BUH-0281-S	5/16	1	1/4	1/16	28	—	9/32	BUB-200-S	SF	2,441
BUH-0281-S-T	5/16	1	1/4	1/8	28	—	9/32	BUB-200-S-T	SF	2,441
BUH-0281 X 1.5-S	5/16	1-1/2	1/4	1/16	28	—	9/32	BUB-200-S	SF	2,441
BUH-0281 X 1.5-S-T	5/16	1-1/2	1/4	1/8	28	—	9/32	BUB-200-S-T	SF	2,441
<b>5/16-18 Threads - 1/2" Hex Head</b>										
BUH-0310-S	3/8	1/2	5/16	1/16	28	—	3/8	BUB-300-S	EF	2,792
BUH-0310-S-T	3/8	1/2	5/16	1/8	28	—	3/8	BUB-300-S-T	EF	2,792
BUH-0310-SF	3/8	1/2	5/16	1/16	28	—	3/8	BUB-300-SF	SF	2,792
BUH-0310-SF-T	3/8	1/2	5/16	1/8	28	—	3/8	BUB-300-SF-T	SF	2,792
BUH-0312-S	3/8	1	5/16	1/16	28	—	3/8	BUB-300-S	EF	2,792
BUH-0312-S-T	3/8	1	5/16	1/8	28	—	3/8	BUB-300-S-T	EF	2,792
BUH-0312-SF	3/8	1	5/16	1/16	28	—	3/8	BUB-300-SF	SF	2,792
BUH-0312-SF-T	3/8	1	5/16	1/8	28	—	3/8	BUB-300-SF-T	SF	2,792
BUH-0312 X 1.5-S	3/8	1-1/2	5/16	1/16	28	—	3/8	BUB-300-S	EF	2,792
BUH-0312 X 1.5-S-T	3/8	1-1/2	5/16	1/8	28	—	3/8	BUB-300-S-T	EF	2,792
BUH-0312 X 1.5-SF	3/8	1-1/2	5/16	1/16	28	—	3/8	BUB-300-SF	SF	2,792
BUH-0312 X 1.5-SF-T	3/8	1-1/2	5/16	1/8	28	—	3/8	BUB-300-SF-T	SF	2,792
<b>5/16-24 Threads - 1/2" Hex Head</b>										
BUH-0320-S	3/8	1/2	5/16	1/16	28	—	3/8	BUB-300-S	EF	2,792
BUH-0320-S-T	3/8	1/2	5/16	1/8	28	—	3/8	BUB-300-S-T	EF	2,792
BUH-0320-SF	3/8	1/2	5/16	1/16	28	—	3/8	BUB-300-SF	SF	2,792
BUH-0320-SF-T	3/8	1/2	5/16	1/8	28	—	3/8	BUB-300-SF-T	SF	2,792
BUH-0321-S	3/8	1	5/16	1/16	28	—	3/8	BUB-300-S	EF	2,792
BUH-0321-S-T	3/8	1	5/16	1/8	28	—	3/8	BUB-300-S-T	EF	2,792
BUH-0321-SF	3/8	1	5/16	1/16	28	—	3/8	BUB-300-SF	SF	2,792
BUH-0321-SF-T	3/8	1	5/16	1/8	28	—	3/8	BUB-300-SF-T	SF	2,792
BUH-0321 X 1.5-S	3/8	1-1/2	5/16	1/16	28	—	3/8	BUB-300-S	EF	2,792
BUH-0321 X 1.5-S-T	3/8	1-1/2	5/16	1/8	28	—	3/8	BUB-300-S-T	EF	2,792
BUH-0321 X 1.5-SF	3/8	1-1/2	5/16	1/16	28	—	3/8	BUB-300-SF	SF	2,792
BUH-0321 X 1.5-SF-T	3/8	1-1/2	5/16	1/8	28	—	3/8	BUB-300-SF-T	SF	2,792

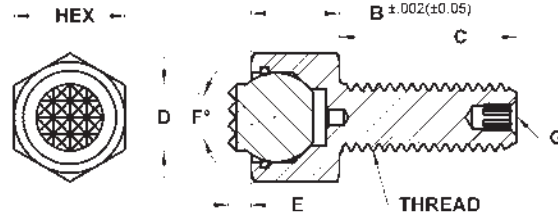
## Hex Head Tool Steel Ball – Serrated – Inch &amp; Metric (continued)



## INCH (CONTINUED)

Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>3/8-16 Threads - 5/8" Hex Head</b>										
BUH-0370-S	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-S	EF	3,446
BUH-0370-S-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-S-T	EF	3,446
BUH-0370-SF	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-SF	SF	3,446
BUH-0370-SF-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-SF-T	SF	3,446
BUH-0375-S	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-S	EF	3,446
BUH-0375-S-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-S-T	EF	3,446
BUH-0375-SF	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-SF	SF	3,446
BUH-0375-SF-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-SF-T	SF	3,446
BUH-0375 X 1.5-S	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-S	EF	3,446
BUH-0375 X 1.5-S-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-S-T	EF	3,446
BUH-0375 X 1.5-SF	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-SF	SF	3,446
BUH-0375 X 1.5-SF-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-SF-T	SF	3,446
<b>3/8-24 Threads - 5/8" Hex Head</b>										
BUH-0230-S	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-S	EF	3,446
BUH-0230-S-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-S-T	EF	3,446
BUH-0230-SF	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-SF	SF	3,446
BUH-0230-SF-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-SF-T	SF	3,446
BUH-0231-S	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-S	EF	3,446
BUH-0231-S-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-S-T	EF	3,446
BUH-0231-SF	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-SF	SF	3,446
BUH-0231-SF-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-SF-T	SF	3,446
BUH-0231 X 1.5-S	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-S	EF	3,446
BUH-0231 X 1.5-S-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-S-T	EF	3,446
BUH-0231 X 1.5-SF	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-SF	SF	3,446
BUH-0231 X 1.5-SF-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-SF-T	SF	3,446
<b>1/2-13 Threads - 13/16" Hex Head</b>										
BUH-0510-S	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-S	Fine	5,937
BUH-0510-S-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-S-T	Fine	5,937
BUH-0510-EF	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-EF	EF	5,937
BUH-0510-EF-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-EF-T	EF	5,937
BUH-0510-SF	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-SF	SF	5,937
BUH-0510-SF-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-SF-T	SF	5,937
BUH-0515-S	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-S	Fine	5,937
BUH-0515-S-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-S-T	Fine	5,937
BUH-0515-EF	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-EF	EF	5,937
BUH-0515-EF-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-EF-T	EF	5,937
BUH-0515-SF	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-SF	SF	5,937
BUH-0515-SF-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-SF-T	SF	5,937
<b>1/2-20 Threads - 13/16" Hex Head</b>										
BUH-0240-S	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-S	Fine	7,178
BUH-0240-S-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-S-T	Fine	7,178
BUH-0240-EF	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-EF	EF	7,178
BUH-0240-EF-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-EF-T	EF	7,178
BUH-0240-SF	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-SF	SF	7,178
BUH-0240-SF-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-SF-T	SF	7,178
BUH-0500-S	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-S	Fine	7,178
BUH-0500-S-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-S-T	Fine	7,178
BUH-0500-EF	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-EF	EF	7,178
BUH-0500-EF-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-EF-T	EF	7,178
BUH-0500-SF	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-SF	SF	7,178
BUH-0500-SF-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-SF-T	SF	7,178

**Hex Head Tool Steel Ball – Serrated – Inch & Metric (continued)**



**INCH (CONTINUED)**

Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>5/8-11 Threads - 15/16" Hex Head</b>										
BUH-0625-S	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-S	Fine	9,932
BUH-0625-S-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-S-T	Fine	9,932
BUH-0625-EF	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-EF	EF	9,932
BUH-0625-EF-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-EF-T	EF	9,932
BUH-0625 X 2-S	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-S	Fine	9,932
BUH-0625 X 2-S-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-S-T	Fine	9,932
BUH-0625 X 2-EF	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-EF	EF	9,932
BUH-0625 X 2-EF-T	11/16	2	5/8	1/4	34	3/4	3/4	BUB-700-EF-T	EF	9,932

**5/8-18 Threads - 15/16" Hex Head**

BUH-0620-S	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-S	Fine	11,874
BUH-0620-S-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-S-T	Fine	11,874
BUH-0620-EF	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-EF	EF	11,874
BUH-0620-EF-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-EF-T	EF	11,874
BUH-0620 X 2-S	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-S	Fine	11,874
BUH-0620 X 2-S-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-S-T	Fine	11,874
BUH-0620 X 2-EF	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-EF	EF	11,874
BUH-0620 X 2-EF-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-EF-T	EF	11,874

**METRIC**

Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>M6x1.0 Threads - 10mm Hex Head</b>										
MBUH-06012-S	8	12	6	1.5	28	----	7	MBUB-070-S	SF	2,061
MBUH-06012-S-T	8	12	6	3	28	----	7	MBUB-070-S-T	SF	2,061
MBUH-06025-S	8	25	6	1.5	28	----	7	MBUB-070-S	SF	2,061
MBUH-06025-S-T	8	25	6	3	28	----	7	MBUB-070-S-T	SF	2,061
MBUH-06040-S	8	40	6	1.5	28	----	7	MBUB-070-S	SF	2,061
MBUH-06040-S-T	8	40	6	3	28	----	7	MBUB-070-S-T	SF	2,061

**M8x1.25 Threads - 13mm Hex Head**

MBUH-08012-S	11.5	12	8.5	1.5	24	----	10	MBUB-100-S	EF	3,450
MBUH-08012-S-T	11.5	12	8.5	3	24	----	10	MBUB-100-S-T	EF	3,450
MBUH-08025-S	11.5	25	8.5	1.5	24	----	10	MBUB-100-S	EF	3,450
MBUH-08025-S-T	11.5	25	8.5	3	24	----	10	MBUB-100-S-T	EF	3,450
MBUH-08040-S	11.5	40	8.5	1.5	24	----	10	MBUB-100-S	EF	3,450
MBUH-08040-S-T	11.5	40	8.5	3	24	----	10	MBUB-100-S-T	EF	3,450

**M10x1.5 Threads - 17mm Hex Head**

MBUH-10015-S	13	15	10	4	42	3	13	MBUB-130-S	EF	4,194
MBUH-10015-S-T	13	15	10	6	42	3	13	MBUB-130-S-T	EF	4,194
MBUH-10030-S	13	30	10	4	42	3	13	MBUB-130-S	EF	4,194
MBUH-10030-S-T	13	30	10	6	42	3	13	MBUB-130-S-T	EF	4,194
MBUH-10050-S	13	50	10	4	42	3	13	MBUB-130-S	EF	4,194
MBUH-10050-S-T	13	50	10	6	42	3	13	MBUB-130-S-T	EF	4,194

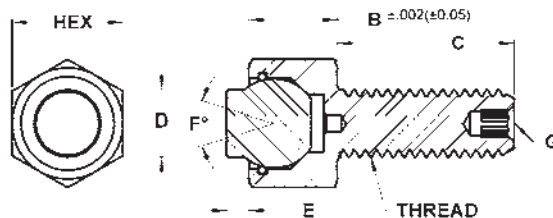
**M12x1.75 Threads - 19mm Hex Head**

MBUH-12020-S	15	20	12	4	45	5	15	MBUB-150-S	Fine	6,627
MBUH-12020-S-T	15	20	12	6	45	5	15	MBUB-150-S-T	Fine	6,627
MBUH-12040-S	15	40	12	4	45	5	15	MBUB-150-S	Fine	6,627
MBUH-12040-S-T	15	40	12	6	45	5	15	MBUB-150-S-T	Fine	6,627
MBUH-12060-S	15	60	12	4	45	5	15	MBUB-150-S	Fine	6,627
MBUH-12060-S-T	15	60	12	6	45	5	15	MBUB-150-S-T	Fine	6,627

**M16x2.0 Threads - 24mm Hex Head**

MBUH-16025-S	19	25	16	4	40	6	20	MBUB-200-S	Fine	11,183
MBUH-16025-S-T	19	25	16	6	40	6	20	MBUB-200-S-T	Fine	11,183
MBUH-16050-S	19	50	16	4	40	6	20	MBUB-200-S	Fine	11,183
MBUH-16050-S-T	19	50	16	6	40	6	20	MBUB-200-S-T	Fine	11,183
MBUH-16080-S	19	80	16	4	40	6	20	MBUB-200-S	Fine	11,183
MBUH-16080-S-T	19	80	16	6	40	6	20	MBUB-200-S-T	Fine	11,183

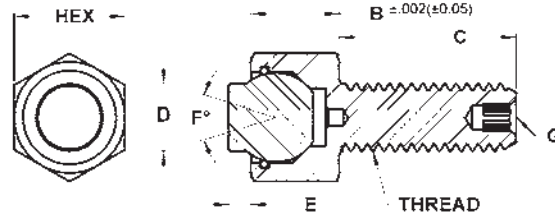
## Hex Head Tool Steel Ball – Flat – Inch &amp; Metric



The replaceable flat ball swivels to allow for self-alignment on uneven surfaces. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The replaceable ball is made from M-2 high speed steel heat treated to Rc 60/62. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components.

INCH									
Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int Hex	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>#10-24 Threads - 3/8" Hex Head</b>									
BUH-0124-F	1/4	1/2	5/32	1/16	28	-----	3/16	BUB-187-F	1,176
BUH-0124 X 1-F	1/4	1	5/32	1/16	28	-----	3/16	BUB-187-F	1,176
<b>#10-32 Threads - 3/8" Hex Head</b>									
BUH-0132-F	1/4	1/2	5/32	1/16	28	-----	3/16	BUB-187-F	1,176
BUH-0132 X 1-F	1/4	1	5/32	1/16	28	-----	3/16	BUB-187-F	1,176
<b>1/4-20 Threads - 7/16" Hex Head</b>									
BUH-0250-F	5/16	1/2	1/4	1/16	28	-----	9/32	BUB-200-F	2,441
BUH-0250-F-T	5/16	1/2	1/4	1/8	28	-----	9/32	BUB-200-F-T	2,441
BUH-0251-F	5/16	1	1/4	1/16	28	-----	9/32	BUB-200-F	2,441
BUH-0251-F-T	5/16	1	1/4	1/8	28	-----	9/32	BUB-200-F-T	2,441
BUH-0251 X 1.5-F	5/16	1-1/2	1/4	1/16	28	-----	9/32	BUB-200-F	2,441
BUH-0251 X 1.5-F-T	5/16	1-1/2	1/4	1/8	28	-----	9/32	BUB-200-F-T	2,441
<b>1/4-28 Threads - 7/16" Hex Head</b>									
BUH-0280-F	5/16	1/2	1/4	1/16	28	-----	9/32	BUB-200-F	2,441
BUH-0280-F-T	5/16	1/2	1/4	1/8	28	-----	9/32	BUB-200-F-T	2,441
BUH-0281-F	5/16	1	1/4	1/16	28	-----	9/32	BUB-200-F	2,441
BUH-0281-F-T	5/16	1	1/4	1/8	28	-----	9/32	BUB-200-F-T	2,441
BUH-0281 X 1.5-F	5/16	1-1/2	1/4	1/16	28	-----	9/32	BUB-200-F	2,441
BUH-0281 X 1.5-F-T	5/16	1-1/2	1/4	1/8	28	-----	9/32	BUB-200-F-T	2,441
<b>5/16-18 Threads - 1/2" Hex Head</b>									
BUH-0310-F	3/8	1/2	5/16	1/16	28	-----	3/8	BUB-300-F	2,792
BUH-0310-F-T	3/8	1/2	5/16	1/8	28	-----	3/8	BUB-300-F-T	2,792
BUH-0312-F	3/8	1	5/16	1/16	28	-----	3/8	BUB-300-F	2,792
BUH-0312-F-T	3/8	1	5/16	1/8	28	-----	3/8	BUB-300-F-T	2,792
BUH-0312 X 1.5-F	3/8	1-1/2	5/16	1/16	28	-----	3/8	BUB-300-F	2,792
BUH-0312 X 1.5-F-T	3/8	1-1/2	5/16	1/8	28	-----	3/8	BUB-300-F-T	2,792
<b>5/16-24 Threads - 1/2" Hex Head</b>									
BUH-0320-F	3/8	1/2	5/16	1/16	28	-----	3/8	BUB-300-F	2,792
BUH-0320-F-T	3/8	1/2	5/16	1/8	28	-----	3/8	BUB-300-F-T	2,792
BUH-0321-F	3/8	1	5/16	1/16	28	-----	3/8	BUB-300-F	2,792
BUH-0321-F-T	3/8	1	5/16	1/8	28	-----	3/8	BUB-300-F-T	2,792
BUH-0321 X 1.5-F	3/8	1-1/2	5/16	1/16	28	-----	3/8	BUB-300-F	2,792
BUH-0321 X 1.5-F-T	3/8	1-1/2	5/16	1/8	28	-----	3/8	BUB-300-F-T	2,792
<b>3/8-16 Threads - 5/8" Hex Head</b>									
BUH-0370-F	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-F	3,446
BUH-0370-F-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-F-T	3,446
BUH-0375-F	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-F	3,446
BUH-0375-F-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-F-T	3,446
BUH-0375 X 1.5-F	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-F	3,446
BUH-0375 X 1.5-F-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-F-T	3,446
<b>3/8-24 Threads - 5/8" Hex Head</b>									
BUH-0230-F	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-F	3,446
BUH-0230-F-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-F-T	3,446
BUH-0231-F	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-F	3,446
BUH-0231-F-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-F-T	3,446
BUH-0231 X 1.5-F	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-F	3,446
BUH-0231 X 1.5-F-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-F-T	3,446
<b>1/2-13 Threads - 13/16" Hex Head</b>									
BUH-0510-F	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-F	5,937
BUH-0510-F-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-F-T	5,937
BUH-0515-F	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-F	5,937
BUH-0515-F-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-F-T	5,937

**Hex Head Tool Steel Ball – Flat – Inch & Metric (continued)**



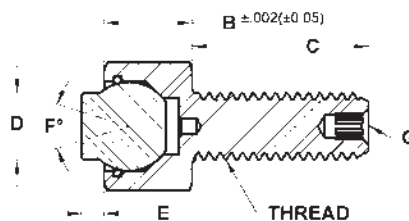
**INCH (CONTINUED)**

Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int Hex	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>1/2-20 Threads - 13/16" Hex Head</b>									
BUH-0240-F	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-F	7,178
BUH-0240-F-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-F-T	7,178
BUH-0500-F	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-F	7,178
BUH-0500-F-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-F-T	7,178
<b>5/8-11 Threads - 15/16" Hex Head</b>									
BUH-0625-F	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-F	9,932
BUH-0625-F-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-F-T	9,932
BUH-0625 X 2-F	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-F	9,932
BUH-0625 X 2-F-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-F-T	9,932
<b>5/8-18 Threads - 15/16" Hex Head</b>									
BUH-0620-F	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-F	11,874
BUH-0620-F-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-F-T	11,874
BUH0620 X 2-F	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-F	11,874
BUH-0620 X 2-F-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-F-T	11,874

**METRIC**

Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int Hex	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>M6x1.0 Threads - 10mm Hex Head</b>									
MBUH-06012-F	8	12	6	1.5	28	—	7	MBUB-070-F	2,061
MBUH-06012-F-T	8	12	6	3	28	—	7	MBUB-070-F-T	2,061
MBUH-06025-F	8	25	6	1.5	28	—	7	MBUB-070-F	2,061
MBUH-06025-F-T	8	25	6	3	28	—	7	MBUB-070-F-T	2,061
MBUH-06040-F	8	40	6	1.5	28	—	7	MBUB-070-F	2,061
MBUH-06040-F-T	8	40	6	3	28	—	7	MBUB-070-F-T	2,061
<b>M8x1.25 Threads - 13mm Hex Head</b>									
MBUH-08012-F	11.5	12	8.5	1.5	24	—	10	MBUB-100-F	3,450
MBUH-08012-F-T	11.5	12	8.5	3	24	—	10	MBUB-100-F-T	3,450
MBUH-08025-F	11.5	25	8.5	1.5	24	—	10	MBUB-100-F	3,450
MBUH-08025-F-T	11.5	25	8.5	3	24	—	10	MBUB-100-F-T	3,450
MBUH-08040-F	11.5	40	8.5	1.5	24	—	10	MBUB-100-F	3,450
MBUH-08040-F-T	11.5	40	8.5	3	24	—	10	MBUB-100-F-T	3,450
<b>M10x1.5 Threads - 17mm Hex Head</b>									
MBUH-10015-F	13	15	10	4	42	3	13	MBUB-130-F	4,194
MBUH-10015-F-T	13	15	10	6	42	3	13	MBUB-130-F-T	4,194
MBUH-10030-F	13	30	10	4	42	3	13	MBUB-130-F	4,194
MBUH-10030-F-T	13	30	10	6	42	3	13	MBUB-130-F-T	4,194
MBUH-10050-F	13	50	10	4	42	3	13	MBUB-130-F	4,194
MBUH-10050-F-T	13	50	10	6	42	3	13	MBUB-130-F-T	4,194
<b>M12x1.75 Threads - 19mm Hex Head</b>									
MBUH-12020-F	15	20	12	4	45	5	15	MBUB-150-F	6,627
MBUH-12020-F-T	15	20	12	6	45	5	15	MBUB-150-F-T	6,627
MBUH-12040-F	15	40	12	4	45	5	15	MBUB-150-F	6,627
MBUH-12040-F-T	15	40	12	6	45	5	15	MBUB-150-F-T	6,627
MBUH-12060-F	15	60	12	4	45	5	15	MBUB-150-F	6,627
MBUH-12060-F-T	15	60	12	6	45	5	15	MBUB-150-F-T	6,627
<b>M16x2.0 Threads - 24mm Hex Head</b>									
MBUH-16025-F	19	25	16	4	40	6	20	MBUB-200-F	11,183
MBUH-16025-F-T	19	25	16	6	40	6	20	MBUB-200-F-T	11,183
MBUH-16050-F	19	50	16	4	40	6	20	MBUB-200-F	11,183
MBUH-16050-F-T	19	50	16	6	40	6	20	MBUB-200-F-T	11,183
MBUH-16080-F	19	80	16	4	40	6	20	MBUB-200-F	11,183
MBUH-16080-F-T	19	80	16	6	40	6	20	MBUB-200-F-T	11,183

## Hex Head Delrin Ball – Flat – Inch &amp; Metric

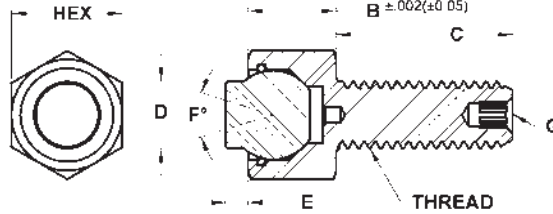


The replaceable flat ball swivels to allow for self-alignment on uneven surfaces. The replaceable ball is made from non-marring white delrin. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components.

Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int. Hex	Ball Dia.	Ball Only Part Number
<b>INCH</b>								
<b>#10-24 Threads - 3/8" Hex Head</b>								
BUH-0124-D	1/4	1/2	5/32	1/16	28	—	3/16	BUB-187-D
BUH-0124 X 1-D	1/4	1	5/32	1/16	28	—	3/16	BUB-187-D
<b>#10-32 Threads - 3/8" Hex Head</b>								
BUH-0132-D	1/4	1/2	5/32	1/16	28	—	3/16	BUB-187-D
BUH-0132 X 1-D	1/4	1	5/32	1/16	28	—	3/16	BUB-187-D
<b>1/4-20 Threads - 7/16" Hex Head</b>								
BUH-0250-D	5/16	1/2	1/4	1/16	28	—	9/32	BUB-200-D
BUH-0250-D-T	5/16	1/2	1/4	1/8	28	—	9/32	BUB-200-D-T
BUH-0251-D	5/16	1	1/4	1/16	28	—	9/32	BUB-200-D
BUH-0251-D-T	5/16	1	1/4	1/8	28	—	9/32	BUB-200-D-T
BUH-0251 X 1.5-D	5/16	1-1/2	1/4	1/16	28	—	9/32	BUB-200-D
BUH-0251 X 1.5-D-T	5/16	1-1/2	1/4	1/8	28	—	9/32	BUB-200-D-T
<b>1/4-28 Threads - 7/16" Hex Head</b>								
BUH-0280-D	5/16	1/2	1/4	1/16	28	—	9/32	BUB-200-D
BUH-0280-D-T	5/16	1/2	1/4	1/8	28	—	9/32	BUB-200-D-T
BUH-0281-D	5/16	1	1/4	1/16	28	—	9/32	BUB-200-D
BUH-0281-D-T	5/16	1	1/4	1/8	28	—	9/32	BUB-200-D-T
BUH-0281 X 1.5-D	5/16	1-1/2	1/4	1/16	28	—	9/32	BUB-200-D
BUH-0281 X 1.5-D-T	5/16	1-1/2	1/4	1/8	28	—	9/32	BUB-200-D-T
<b>5/16-18 Threads - 1/2" Hex Head</b>								
BUH-0310-D	3/8	1/2	5/16	1/16	28	—	3/8	BUB-300-D
BUH-0310-D-T	3/8	1/2	5/16	1/8	28	—	3/8	BUB-300-D-T
BUH-0312-D	3/8	1	5/16	1/16	28	—	3/8	BUB-300-D
BUH-0312-D-T	3/8	1	5/16	1/8	28	—	3/8	BUB-300-D-T
BUH-0312 X 1.5-D	3/8	1-1/2	5/16	1/16	28	—	3/8	BUB-300-D
BUH-0312 X 1.5-D-T	3/8	1-1/2	5/16	1/8	28	—	3/8	BUB-300-D-T
<b>5/16-24 Threads - 1/2" Hex Head</b>								
BUH-0320-D	3/8	1/2	5/16	1/16	28	—	3/8	BUB-300-D
BUH-0320-D-T	3/8	1/2	5/16	1/8	28	—	3/8	BUB-300-D-T
BUH-0321-D	3/8	1	5/16	1/16	28	—	3/8	BUB-300-D
BUH-0321-D-T	3/8	1	5/16	1/8	28	—	3/8	BUB-300-D-T
BUH-0321 X 1.5-D	3/8	1-1/2	5/16	1/16	28	—	3/8	BUB-300-D
BUH-0321 X 1.5-D-T	3/8	1-1/2	5/16	1/8	28	—	3/8	BUB-300-D-T
<b>3/8-16 Threads - 5/8" Hex Head</b>								
BUH-0370-D	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-D
BUH-0370-D-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-D-T
BUH-0375-D	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-D
BUH-0375-D-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-D-T
BUH-0375 X 1.5-D	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-D
BUH-0375 X 1.5-D-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-D-T
<b>3/8-24 Threads - 5/8" Hex Head</b>								
BUH-0230-D	1/2	1/2	3/8	1/8	40	1/8	1/2	BUB-500-D
BUH-0230-D-T	1/2	1/2	3/8	1/4	40	1/8	1/2	BUB-500-D-T
BUH-0231-D	1/2	1	3/8	1/8	40	1/8	1/2	BUB-500-D
BUH-0231-D-T	1/2	1	3/8	1/4	40	1/8	1/2	BUB-500-D-T
BUH-0231 X 1.5-D	1/2	1-1/2	3/8	1/8	40	1/8	1/2	BUB-500-D
BUH-0231 X 1.5-D-T	1/2	1-1/2	3/8	1/4	40	1/8	1/2	BUB-500-D-T

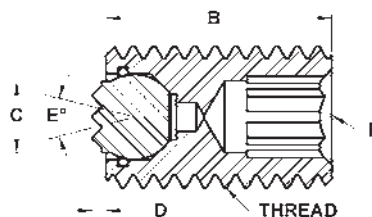
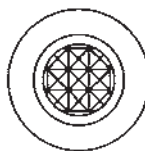


**Hex Head Delrin Ball – Flat – Inch & Metric (continued)**



<b>INCH (CONTINUED)</b>								
Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int. Hex	Ball Dia.	Ball Only Part Number
<b>1/2-13 Threads - 13/16" Hex Head</b>								
BUH-0510-D	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-D
BUH-0510-D-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-D-T
BUH-0515-D	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-D
BUH-0515-D-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-D-T
<b>1/2-20 Threads - 13/16" Hex Head</b>								
BUH-0240-D	5/8	1	1/2	1/8	40	3/16	5/8	BUB-600-D
BUH-0240-D-T	5/8	1	1/2	1/4	40	3/16	5/8	BUB-600-D-T
BUH-0500-D	5/8	1-1/2	1/2	1/8	40	3/16	5/8	BUB-600-D
BUH-0500-D-T	5/8	1-1/2	1/2	1/4	40	3/16	5/8	BUB-600-D-T
<b>5/8-11 Threads - 15/16" Hex Head</b>								
BUH-0625-D	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-D
BUH-0625-D-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-D-T
BUH-0625 X 2-D	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-D
BUH-0625 X 2-D-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-D-T
<b>5/8-18 Threads - 15/16" Hex Head</b>								
BUH-0620-D	11/16	1	5/8	1/8	34	1/4	3/4	BUB-700-D
BUH-0620-D-T	11/16	1	5/8	1/4	34	1/4	3/4	BUB-700-D-T
BUH-0620 X 2-D	11/16	2	5/8	1/8	34	1/4	3/4	BUB-700-D
BUH-0620 X 2-D-T	11/16	2	5/8	1/4	34	1/4	3/4	BUB-700-D-T
<b>METRIC</b>								
Part Number	B Head Height	C Thread Length	D Contact Dia.	E Stand Off	F Degree Swivel	G Int. Hex	Ball Dia.	Ball Only Part Number
<b>M6x1.0 Threads - 10mm Hex Head</b>								
MBUH-06012-D	8	12	6	1.5	28	—	7	MBUB-070-D
MBUH-06012-D-T	8	12	6	3	28	—	7	MBUB-070-D-T
MBUH-06025-D	8	25	6	1.5	28	—	7	MBUB-070-D
MBUH-06025-D-T	8	25	6	3	28	—	7	MBUB-070-D-T
MBUH-06040-D	8	40	6	1.5	28	—	7	MBUB-070-D
MBUH-06040-D-T	8	40	6	3	28	—	7	MBUB-070-D-T
<b>M8x1.25 Threads - 13mm Hex Head</b>								
MBUH-08012-D	11.5	12	8.5	1.5	24	—	10	MBUB-100-D
MBUH-08012-D-T	11.5	12	8.5	3	24	—	10	MBUB-100-D-T
MBUH-08025-D	11.5	25	8.5	1.5	24	—	10	MBUB-100-D
MBUH-08025-D-T	11.5	25	8.5	3	24	—	10	MBUB-100-D-T
MBUH-08040-D	11.5	40	8.5	1.5	24	—	10	MBUB-100-D
MBUH-08040-D-T	11.5	40	8.5	3	24	—	10	MBUB-100-D-T
<b>M10x1.5 Threads - 17mm Hex Head</b>								
MBUH-10015-D	13	15	10	4	42	3	13	MBUB-130-D
MBUH-10015-D-T	13	15	10	6	42	3	13	MBUB-130-D-T
MBUH-10030-D	13	30	10	4	42	3	13	MBUB-130-D
MBUH-10030-D-T	13	30	10	6	42	3	13	MBUB-130-D-T
MBUH-10050-D	13	50	10	4	42	3	13	MBUB-130-D
MBUH-10050-D-T	13	50	10	6	42	3	13	MBUB-130-D-T
<b>M12x1.75 Threads - 19mm Hex Head</b>								
MBUH-12020-D	15	20	12	4	45	5	15	MBUB-150-D
MBUH-12020-D-T	15	20	12	6	45	5	15	MBUB-150-D-T
MBUH-12040-D	15	40	12	4	45	5	15	MBUB-150-D
MBUH-12040-D-T	15	40	12	6	45	5	15	MBUB-150-D-T
MBUH-12060-D	15	60	12	4	45	5	15	MBUB-150-D
MBUH-12060-D-T	15	60	12	6	45	5	15	MBUB-150-D-T
<b>M16x2.0 Threads - 24mm Hex Head</b>								
MBUH-16025-D	19	25	16	4	40	6	20	MBUB-200-D
MBUH-16025-D-T	19	25	16	6	40	6	20	MBUB-200-D-T
MBUH-16050-D	19	50	16	4	40	6	20	MBUB-200-D
MBUH-16050-D-T	19	50	16	6	40	6	20	MBUB-200-D-T
MBUH-16080-D	19	80	16	4	40	6	20	MBUB-200-D
MBUH-16080-D-T	19	80	16	6	40	6	20	MBUB-200-D-T

## Threaded Body Tool Steel Ball – Serrated – Inch & Metric

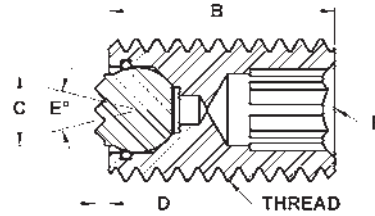
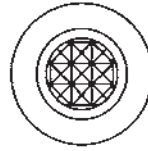


The replaceable serrated ball swivels to allow for self-alignment on uneven surfaces. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The replaceable ball is made from M-2 high speed steel heat treated to Rc 60/62. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components. See page 6 for tooth pattern specifications.

### INCH

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>3/8-16 Threads</b>									
TBU-0370-S	1/2	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
TBU-0375-S	1	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
TBU-0375 X 2-S	2	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
TBU-0375 X 3-S	3	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
<b>3/8-24 Threads</b>									
TBU-0230-S	1/2	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
TBU-0231-S	1	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
TBU-0231 X 2-S	2	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
TBU-0231 X 3-S	3	5/32	1/16	28	3/16	3/16	BUB-187-S	SF	1,763
<b>1/2-13 Threads</b>									
TBU-0513-S	3/4	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0513-S-T	3/4	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
TBU-0510-S	1	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0510-S-T	1	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
TBU-0510 X 2-S	2	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0510 X 2-S-T	2	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
TBU-0510 X 3-S	3	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0510 X 3-S-T	3	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
<b>1/2-20 Threads</b>									
TBU-0503-S	3/4	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0503-S-T	3/4	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
TBU-0500-S	1	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0500-S-T	1	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
TBU-0500 X 2-S	2	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0500 X 2-S-T	2	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
TBU-0500 X 3-S	3	1/4	1/16	28	1/4	9/32	BUB-200-S	SF	4,527
TBU-0500 X 3-S-T	3	1/4	1/8	28	1/4	9/32	BUB-200-S-T	SF	4,527
<b>5/8-11 Threads</b>									
TBU-0625-S	1	5/16	1/16	28	5/16	3/8	BUB-300-S	EF	6,131
TBU-0625-S-T	1	5/16	1/8	28	5/16	3/8	BUB-300-S-T	EF	6,131
TBU-0625-SF	1	5/16	1/16	28	5/16	3/8	BUB-300-SF	SF	6,131
TBU-0625-SF-T	1	5/16	1/8	28	5/16	3/8	BUB-300-SF-T	SF	6,131
TBU-0625 X 2-S	2	5/16	1/16	28	5/16	3/8	BUB-300-S	EF	6,131
TBU-0625 X 2-S-T	2	5/16	1/8	28	5/16	3/8	BUB-300-S-T	EF	6,131
TBU-0625 X 2-SF	2	5/16	1/16	28	5/16	3/8	BUB-300-SF	SF	6,131
TBU-0625 X 2-SF-T	2	5/16	1/8	28	5/16	3/8	BUB-300-SF-T	SF	6,131
TBU-0625 X 3-S	3	5/16	1/16	28	5/16	3/8	BUB-300-S	EF	6,131
TBU-0625 X 3-S-T	3	5/16	1/8	28	5/16	3/8	BUB-300-S-T	EF	6,131
TBU-0625 X 3-SF	3	5/16	1/16	28	5/16	3/8	BUB-300-SF	SF	6,131
TBU-0625 X 3-SF-T	3	5/16	1/8	28	5/16	3/8	BUB-300-SF-T	SF	6,131

**Threaded Body Tool Steel Ball – Serrated – Inch & Metric (continued)**

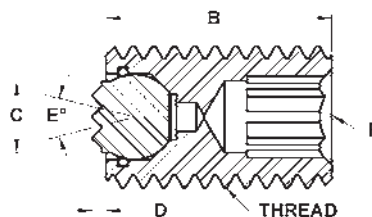
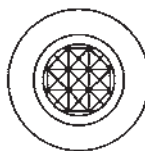


**INCH (CONTINUED)**

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>5/8-18 Threads</b>									
TBU-0620-S	1	5/16	1/16	28	5/16	3/8	BUB-300-S	EF	6,131
TBU-0620-S-T	1	5/16	1/8	28	5/16	3/8	BUB-300-S-T	EF	6,131
TBU-0620-SF	1	5/16	1/16	28	5/16	3/8	BUB-300-SF	SF	6,131
TBU-0620-SF-T	1	5/16	1/8	28	5/16	3/8	BUB-300-SF-T	SF	6,131
TBU-0620 X 2-S	2	5/16	1/16	28	5/16	3/8	BUB-300-S	EF	6,131
TBU-0620 X 2-S-T	2	5/16	1/8	28	5/16	3/8	BUB-300-S-T	EF	6,131
TBU-0620 X 2-SF	2	5/16	1/16	28	5/16	3/8	BUB-300-SF	SF	6,131
TBU-0620 X 2-SF-T	2	5/16	1/8	28	5/16	3/8	BUB-300-SF-T	SF	6,131
TBU-0620 X 3-S	3	5/16	1/16	28	5/16	3/8	BUB-300-S	EF	6,131
TBU-0620 X 3-S-T	3	5/16	1/8	28	5/16	3/8	BUB-300-S-T	EF	6,131
TBU-0620 X 3-SF	3	5/16	1/16	28	5/16	3/8	BUB-300-SF	SF	6,131
TBU-0620 X 3-SF-T	3	5/16	1/8	28	5/16	3/8	BUB-300-SF-T	SF	6,131
<b>3/4-10 Threads</b>									
TBU-0755-S	1	3/8	1/8	40	3/8	1/2	BUB-500-S	EF	8,150
TBU-0755-S-T	1	3/8	1/4	40	3/8	1/2	BUB-500-S-T	EF	8,150
TBU-0755-SF	1	3/8	1/8	40	3/8	1/2	BUB-500-SF	SF	8,150
TBU-0755-SF-T	1	3/8	1/4	40	3/8	1/2	BUB-500-SF-T	SF	8,150
TBU-0755 X 2-S	2	3/8	1/8	40	3/8	1/2	BUB-500-S	EF	8,150
TBU-0755 X 2-S-T	2	3/8	1/4	40	3/8	1/2	BUB-500-S-T	EF	8,150
TBU-0755 X 2-SF	2	3/8	1/8	40	3/8	1/2	BUB-500-SF	SF	8,150
TBU-0755 X 2-SF-T	2	3/8	1/4	40	3/8	1/2	BUB-500-SF-T	SF	8,150
TBU-0755 X 3-S	3	3/8	1/8	40	3/8	1/2	BUB-500-S	EF	8,150
TBU-0755 X 3-S-T	3	3/8	1/4	40	3/8	1/2	BUB-500-S-T	EF	8,150
TBU-0755 X 3-SF	3	3/8	1/8	40	3/8	1/2	BUB-500-SF	SF	8,150
TBU-0755 X 3-SF-T	3	3/8	1/4	40	3/8	1/2	BUB-500-SF-T	SF	8,150
<b>3/4-16 Threads</b>									
TBU-0750-S	1	3/8	1/8	40	3/8	1/2	BUB-500-S	EF	8,150
TBU-0750-S-T	1	3/8	1/4	40	3/8	1/2	BUB-500-S-T	EF	8,150
TBU-0750-SF	1	3/8	1/8	40	3/8	1/2	BUB-500-SF	SF	8,150
TBU-0750-SF-T	1	3/8	1/4	40	3/8	1/2	BUB-500-SF-T	SF	8,150
TBU-0750 X 2-S	2	3/8	1/8	40	3/8	1/2	BUB-500-S	EF	8,150
TBU-0750 X 2-S-T	2	3/8	1/4	40	3/8	1/2	BUB-500-S-T	EF	8,150
TBU-0750 X 2-SF	2	3/8	1/8	40	3/8	1/2	BUB-500-SF	SF	8,150
TBU-0750 X 2-SF-T	2	3/8	1/4	40	3/8	1/2	BUB-500-SF-T	SF	8,150
TBU-0750 X 3-S	3	3/8	1/8	40	3/8	1/2	BUB-500-S	EF	8,150
TBU-0750 X 3-S-T	3	3/8	1/4	40	3/8	1/2	BUB-500-S-T	EF	8,150
TBU-0750 X 3-SF	3	3/8	1/8	40	3/8	1/2	BUB-500-SF	SF	8,150
TBU-0750 X 3-SF-T	3	3/8	1/4	40	3/8	1/2	BUB-500-SF-T	SF	8,150
<b>1"-8 Threads</b>									
TBU-1108-S	1	1/2	1/8	40	3/8	5/8	BUB-600-S	Fine	14,757
TBU-1108-S-T	1	1/2	1/4	40	3/8	5/8	BUB-600-S-T	Fine	14,757
TBU-1108-EF	1	1/2	1/8	40	3/8	5/8	BUB-600-EF	EF	14,757
TBU-1108-EF-T	1	1/2	1/4	40	3/8	5/8	BUB-600-EF-T	EF	14,757
TBU-1108-SF	1	1/2	1/8	40	3/8	5/8	BUB-600-SF	SF	14,757
TBU-1108-SF-T	1	1/2	1/4	40	3/8	5/8	BUB-600-SF-T	SF	14,757
TBU-1108 X 2-S	2	1/2	1/8	40	3/8	5/8	BUB-600-S	Fine	14,757
TBU-1108 X 2-S-T	2	1/2	1/4	40	3/8	5/8	BUB-600-S-T	Fine	14,757
TBU-1108 X 2-EF	2	1/2	1/8	40	3/8	5/8	BUB-600-EF	EF	14,757
TBU-1108 X 2-EF-T	2	1/2	1/4	40	3/8	5/8	BUB-600-EF-T	EF	14,757
TBU-1108 X 2-SF	2	1/2	1/8	40	3/8	5/8	BUB-600-SF	SF	14,757
TBU-1108 X 2-SF-T	2	1/2	1/4	40	3/8	5/8	BUB-600-SF-T	SF	14,757
TBU-1108 X 3-S	3	1/2	1/8	40	3/8	5/8	BUB-600-S	Fine	14,757
TBU-1108 X 3-S-T	3	1/2	1/4	40	3/8	5/8	BUB-600-S-T	Fine	14,757
TBU-1108 X 3-EF	3	1/2	1/8	40	3/8	5/8	BUB-600-EF	EF	14,757
TBU-1108 X 3-EF-T	3	1/2	1/4	40	3/8	5/8	BUB-600-EF-T	EF	14,757
TBU-1108 X 3-SF	3	1/2	1/8	40	3/8	5/8	BUB-600-SF	SF	14,757
TBU-1108 X 3-SF-T	3	1/2	1/4	40	3/8	5/8	BUB-600-SF-T	SF	14,757

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## Threaded Body Tool Steel Ball – Serrated – Inch & Metric (continued)



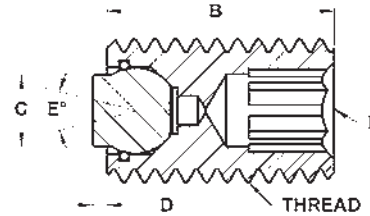
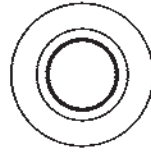
### INCH (CONTINUED)

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>1"-14 Threads</b>									
TBU-1114-S	1	5/8	1/8	34	3/8	3/4	BUB-700-S	Fine	14,757
TBU-1114-S-T	1	5/8	1/4	34	3/8	3/4	BUB-700-S-T	Fine	14,757
TBU-1114-EF	1	5/8	1/8	34	3/8	3/4	BUB-700-EF	EF	14,757
TBU-1114-EF-T	1	5/8	1/4	34	3/8	3/4	BUB-700-EF-T	EF	14,757
TBU-1114 X 2-S	2	5/8	1/8	34	3/8	3/4	BUB-700-S	Fine	14,757
TBU-1114 X 2-S-T	2	5/8	1/4	34	3/8	3/4	BUB-700-S-T	Fine	14,757
TBU-1114 X 2-EF	2	5/8	1/8	34	3/8	3/4	BUB-700-EF	EF	14,757
TBU-1114 X 2-EF-T	2	5/8	1/4	34	3/8	3/4	BUB-700-EF-T	EF	14,757
TBU-1114 X 3-S	3	5/8	1/8	34	3/8	3/4	BUB-700-S	Fine	14,757
TBU-1114 X 3-S-T	3	5/8	1/4	34	3/8	3/4	BUB-700-S-T	Fine	14,757
TBU-1114 X 3-EF	3	5/8	1/8	34	3/8	3/4	BUB-700-EF	EF	14,757
TBU-1114 X 3-EF-T	3	5/8	1/4	34	3/8	3/4	BUB-700-EF-T	EF	14,757

### METRIC

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Hex	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>M10x1.50 Threads</b>									
MTBU-10025-S	25	4	1.5	30	5	5	MBUB-050-S	SF	—
MTBU-10035-S	35	4	1.5	30	5	5	MBUB-050-S	SF	—
MTBU-10050-S	50	4	1.5	30	5	5	MBUB-050-S	SF	—
<b>M12x1.75 Threads</b>									
MTBU-12025-S	25	6	1.5	28	6	7	MBUB-070-S	SF	3,440
MTBU-12025-S-T	25	6	3	28	6	7	MBUB-070-S-T	SF	3,440
MTBU-12035-S	35	6	1.5	28	6	7	MBUB-070-S	SF	3,440
MTBU-12035-S-T	35	6	3	28	6	7	MBUB-070-S-T	SF	3,440
MTBU-12050-S	50	6	1.5	28	6	7	MBUB-070-S	SF	3,440
MTBU-12050-S-T	50	6	3	28	6	7	MBUB-070-S-T	SF	3,440
<b>M16x2.0 Threads</b>									
MTBU-16025-S	25	8.5	1.5	24	8	10	MBUB-100-S	EF	5,190
MTBU-16025-S-T	25	8.5	3	24	8	10	MBUB-100-S-T	EF	5,190
MTBU-16035-S	35	8.5	1.5	24	8	10	MBUB-100-S	EF	5,190
MTBU-16035-S-T	35	8.5	3	24	8	10	MBUB-100-S-T	EF	5,190
MTBU-16050-S	50	8.5	1.5	24	8	10	MBUB-100-S	EF	5,190
MTBU-16050-S-T	50	8.5	3	24	8	10	MBUB-100-S-T	EF	5,190
<b>M20x2.5 Threads</b>									
MTBU-20030-S	30	10	4	42	10	13	MBUB-130-S	EF	8,379
MTBU-20030-S-T	30	10	6	42	10	13	MBUB-130-S-T	EF	8,379
MTBU-20050-S	50	10	4	42	10	13	MBUB-130-S	EF	8,379
MTBU-20050-S-T	50	10	6	42	10	13	MBUB-130-S-T	EF	8,379
MTBU-20070-S	70	10	4	42	10	13	MBUB-130-S	EF	8,379
MTBU-20070-S-T	70	10	6	42	10	13	MBUB-130-S-T	EF	8,379
<b>M24x3.0 Threads</b>									
MTBU-24040-S	40	12	4	45	10	15	MBUB-150-S	Fine	12,233
MTBU-24040-S-T	40	12	6	45	10	15	MBUB-150-S-T	Fine	12,233
MTBU-24080-S	80	12	4	45	10	15	MBUB-150-S	Fine	12,233
MTBU-24080-S-T	80	12	6	45	10	15	MBUB-150-S-T	Fine	12,233

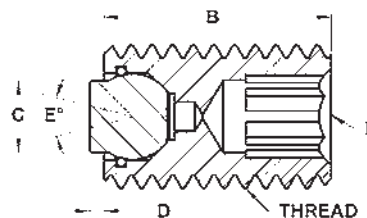
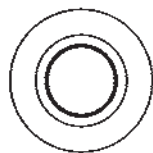
**Threaded Body** Tool Steel Ball – Flat – Inch & Metric



The replaceable flat ball swivels to allow for self-alignment on uneven surfaces. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The replaceable ball is made from M-2 high speed steel heat treated to Rc 60/62. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components.

INCH								
Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Int. Hex	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>3/8-16 Threads</b>								
TBU-0370-F	1/2	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
TBU-0375-F	1	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
TBU-0375 X 2-F	2	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
TBU-0375 X 3-F	3	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
<b>3/8-24 Threads</b>								
TBU-0230-F	1/2	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
TBU-0231-F	1	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
TBU-0231 X 2-F	2	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
TBU-0231 X 3-F	3	5/32	1/16	28	3/16	3/16	BUB-187-F	1,763
<b>1/2-13 Threads</b>								
TBU-0513-F	3/4	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0513-F-T	3/4	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
TBU-0510-F	1	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0510-F-T	1	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
TBU-0510 X 2-F	2	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0510 X 2-F-T	2	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
TBU-0510 X 3-F	3	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0510 X 3-F-T	3	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
<b>1/2-20 Threads</b>								
TBU-0503-F	3/4	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0503-F-T	3/4	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
TBU-0500-F	1	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0500-F-T	1	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
TBU-0500 X 2-F	2	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0500 X 2-F-T	2	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
TBU-0500 X 3-F	3	1/4	1/16	28	1/4	9/32	BUB-200-F	4,527
TBU-0500 X 3-F-T	3	1/4	1/8	28	1/4	9/32	BUB-200-F-T	4,527
<b>5/8-11 Threads</b>								
TBU-0625-F	1	5/16	1/16	28	5/16	3/8	BUB-300-F	6,131
TBU-0625-F-T	1	5/16	1/8	28	5/16	3/8	BUB-300-F-T	6,131
TBU-0625 X 2-F	2	5/16	1/16	28	5/16	3/8	BUB-300-F	6,131
TBU-0625 X 2-F-T	2	5/16	1/8	28	5/16	3/8	BUB-300-F-T	6,131
TBU-0625 X 3-F	3	5/16	1/16	28	5/16	3/8	BUB-300-F	6,131
TBU-0625 X 3-F-T	3	5/16	1/8	28	5/16	3/8	BUB-300-F-T	6,131
<b>5/8-18 Threads</b>								
TBU-0620-F	1	5/16	1/16	28	5/16	3/8	BUB-300-F	6,131
TBU-0620-F-T	1	5/16	1/8	28	5/16	3/8	BUB-300-F-T	6,131
TBU-0620 X 2-F	2	5/16	1/16	28	5/16	3/8	BUB-300-F	6,131
TBU-0620 X 2-F-T	2	5/16	1/8	28	5/16	3/8	BUB-300-F-T	6,131
TBU-0620 X 3-F	3	5/16	1/16	28	5/16	3/8	BUB-300-F	6,131
TBU-0620 X 3-F-T	3	5/16	1/8	28	5/16	3/8	BUB-300-F-T	6,131
<b>3/4-10 Threads</b>								
TBU-0755-F	1	3/8	1/8	40	3/8	1/2	BUB-500-F	8,150
TBU-0755-F-T	1	3/8	1/4	40	3/8	1/2	BUB-500-F-T	8,150
TBU-0755 X 2-F	2	3/8	1/8	40	3/8	1/2	BUB-500-F	8,150
TBU-0755 X 2-F-T	2	3/8	1/4	40	3/8	1/2	BUB-500-F-T	8,150
TBU-0755 X 3-F	3	3/8	1/8	40	3/8	1/2	BUB-500-F	8,150
TBU-0755 X 3-F-T	3	3/8	1/4	40	3/8	1/2	BUB-500-F-T	8,150

## Threaded Body Tool Steel Ball – Flat – Inch & Metric (continued)



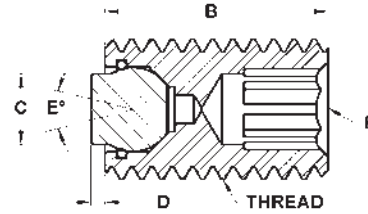
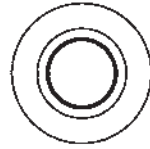
### INCH (CONTINUED)

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Int. Hex	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>3/4-16 Threads</b>								
TBU-0750-F	1	3/8	1/8	40	3/8	1/2	BUB-500-F	8,150
TBU-0750-F-T	1	3/8	1/4	40	3/8	1/2	BUB-500-F-T	8,150
TBU-0750 X 2-F	2	3/8	1/8	40	3/8	1/2	BUB-500-F	8,150
TBU-0750 X 2-F-T	2	3/8	1/4	40	3/8	1/2	BUB-500-F-T	8,150
TBU-0750 X 3-F	3	3/8	1/8	40	3/8	1/2	BUB-500-F	8,150
TBU-0750 X 3-F-T	3	3/8	1/4	40	3/8	1/2	BUB-500-F-T	8,150
<b>1"-8 Threads</b>								
TBU-1108-F	1	1/2	1/8	40	3/8	5/8	BUB-600-F	14,757
TBU-1108-F-T	1	1/2	1/4	40	3/8	5/8	BUB-600-F-T	14,757
TBU-1108 X 2-F	2	1/2	1/8	40	3/8	5/8	BUB-600-F	14,757
TBU-1108 X 2-F-T	2	1/2	1/4	40	3/8	5/8	BUB-600-F-T	14,757
TBU-1108 X 3-F	3	1/2	1/8	40	3/8	5/8	BUB-600-F	14,757
TBU-1108 X 3-F-T	3	1/2	1/4	40	3/8	5/8	BUB-600-F-T	14,757
<b>1"-14 Threads</b>								
TBU-1114-F	1	5/8	1/8	34	3/8	3/4	BUB-700-F	17,210
TBU-1114-F-T	1	5/8	1/4	34	3/8	3/4	BUB-700-F-T	17,210
TBU-1114 X 2-F	2	5/8	1/8	34	3/8	3/4	BUB-700-F	17,210
TBU-1114 X 2-F-T	2	5/8	1/4	34	3/8	3/4	BUB-700-F-T	17,210
TBU-1114 X 3-F	3	5/8	1/8	34	3/8	3/4	BUB-700-F	17,210
TBU-1114 X 3-F-T	3	5/8	1/4	34	3/8	3/4	BUB-700-F-T	17,210

### METRIC

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Int. Hex	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>M10x1.5 Threads</b>								
MTBU-10025-F	25	4	1.5	30	5	5	MBUB-050-F	—
MTBU-10035-F	35	4	1.5	30	5	5	MBUB-050-F	—
MTBU-10050-F	50	4	1.5	30	5	5	MBUB-050-F	—
<b>M12x1.75 Threads</b>								
MTBU-12025-F	25	6	1.5	28	6	7	MBUB-070-F	3,440
MTBU-12025-F-T	25	6	3	28	6	7	MBUB-070-F-T	3,440
MTBU-12035-F	35	6	1.5	28	6	7	MBUB-070-F	3,440
MTBU-12035-F-T	35	6	3	28	6	7	MBUB-070-F-T	3,440
MTBU-12050-F	50	6	1.5	28	6	7	MBUB-070-F	3,440
MTBU-12050-F-T	50	6	3	28	6	7	MBUB-070-F-T	3,440
<b>M16x2.0 Threads</b>								
MTBU-16025-F	25	8.5	1.5	24	8	10	MBUB-100-F	5,190
MTBU-16025-F-T	25	8.5	3	24	8	10	MBUB-100-F-T	5,190
MTBU-16035-F	35	8.5	1.5	24	8	10	MBUB-100-F	5,190
MTBU-16035-F-T	35	8.5	3	24	8	10	MBUB-100-F-T	5,190
MTBU-16050-F	50	8.5	1.5	24	8	10	MBUB-100-F	5,190
MTBU-16050-F-T	50	8.5	3	24	8	10	MBUB-100-F-T	5,190
<b>M20x2.5 Threads</b>								
MTBU-20030-F	30	10	4	42	10	13	MBUB-130-F	8,379
MTBU-20030-F-T	30	10	6	42	10	13	MBUB-130-F-T	8,379
MTBU-20050-F	50	10	4	42	10	13	MBUB-130-F	8,379
MTBU-20050-F-T	50	10	6	42	10	13	MBUB-130-F-T	8,379
MTBU-20070-F	70	10	4	42	8	13	MBUB-130-F	8,379
MTBU-20070-F-T	70	10	6	42	8	13	MBUB-130-F-T	8,379
<b>M24x3.0 Threads</b>								
MTBU-24040-F	40	12	4	45	10	15	MBUB-150-F	12,233
MTBU-24040-F-T	40	12	6	45	10	15	MBUB-150-F-T	12,233
MTBU-24080-F	80	12	4	45	10	15	MBUB-150-F	12,233
MTBU-24080-F-T	80	12	6	45	10	15	MBUB-150-F-T	12,233

**Threaded Body Delrin Ball – Flat – Inch & Metric**

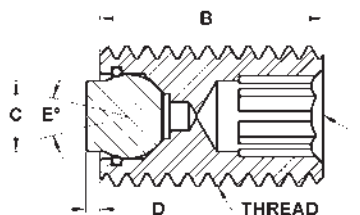


The replaceable flat ball swivels to allow for self-alignment on uneven surfaces. The replaceable ball is made from non-marring white delrin. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components.

**INCH**

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Int. Hex	Ball Dia.	Ball Only Part Number
<b>3/8-16 Threads</b>							
TBU-0370-D	1/2	5/32	1/16	28	3/16	3/16	BUB-187-D
TBU-0375-D	1	5/32	1/16	28	3/16	3/16	BUB-187-D
TBU-0375 X 2-D	2	5/32	1/16	28	3/16	3/16	BUB-187-D
TBU-0375 X 3-D	3	5/32	1/16	28	3/16	3/16	BUB-187-D
<b>3/8-24 Threads</b>							
TBU-0230-D	1/2	5/32	1/16	28	3/16	3/16	BUB-187-D
TBU-0231-D	1	5/32	1/16	28	3/16	3/16	BUB-187-D
TBU-0231 X 2-D	2	5/32	1/16	28	3/16	3/16	BUB-187-D
TBU-0231 X 3-D	3	5/32	1/16	28	3/16	3/16	BUB-187-D
<b>1/2-13 Threads</b>							
TBU-0513-D	3/4	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0513-D-T	3/4	1/4	1/8	28	1/4	9/32	BUB-200-D-T
TBU-0510-D	1	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0510-D-T	1	1/4	1/8	28	1/4	9/32	BUB-200-D-T
TBU-0510 X 2-D	2	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0510 X 2-D-T	2	1/4	1/8	28	1/4	9/32	BUB-200-D-T
TBU-0510 X 3-D	3	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0510 X 3-D-T	3	1/4	1/8	28	1/4	9/32	BUB-200-D-T
<b>1/2-20 Threads</b>							
TBU-0503-D	3/4	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0503-D-T	3/4	1/4	1/8	28	1/4	9/32	BUB-200-D-T
TBU-0500-D	1	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0500-D-T	1	1/4	1/8	28	1/4	9/32	BUB-200-D-T
TBU-0500 X 2-D	2	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0500 X 2-D-T	2	1/4	1/8	28	1/4	9/32	BUB-200-D-T
TBU-0500 X 3-D	3	1/4	1/16	28	1/4	9/32	BUB-200-D
TBU-0500 X 3-D-T	3	1/4	1/8	28	1/4	9/32	BUB-200-D-T
<b>5/8-11 Threads</b>							
TBU-0625-D	1	5/16	1/16	28	5/16	3/8	BUB-300-D
TBU-0625-D-T	1	5/16	1/8	28	5/16	3/8	BUB-300-D-T
TBU-0625 X 2-D	2	5/16	1/16	28	5/16	3/8	BUB-300-D
TBU-0625 X 2-D-T	2	5/16	1/8	28	5/16	3/8	BUB-300-D-T
TBU-0625 X 3-D	3	5/16	1/16	28	5/16	3/8	BUB-300-D
TBU-0625 X 3-D-T	3	5/16	1/8	28	5/16	3/8	BUB-300-D-T
<b>5/8-18 Threads</b>							
TBU-0620-D	1	5/16	1/16	28	5/16	3/8	BUB-300-D
TBU-0620-D-T	1	5/16	1/8	28	5/16	3/8	BUB-300-D-T
TBU-0620 X 2-D	2	5/16	1/16	28	5/16	3/8	BUB-300-D
TBU-0620 X 2-D-T	2	5/16	1/8	28	5/16	3/8	BUB-300-D-T
TBU-0620 X 3-D	3	5/16	1/16	28	5/16	3/8	BUB-300-D
TBU-0620 X 3-D-T	3	5/16	1/8	28	5/16	3/8	BUB-300-D-T
<b>3/4-10 Threads</b>							
TBU-0755-D	1	3/8	1/8	40	3/8	1/2	BUB-500-D
TBU-0755-D-T	1	3/8	1/4	40	3/8	1/2	BUB-500-D-T
TBU-0755 X 2-D	2	3/8	1/8	40	3/8	1/2	BUB-500-D
TBU-0755 X 2-D-T	2	3/8	1/4	40	3/8	1/2	BUB-500-D-T
TBU-0755 X 3-D	3	3/8	1/8	40	3/8	1/2	BUB-500-D
TBU-0755 X 3-D-T	3	3/8	1/4	40	3/8	1/2	BUB-500-D-T

## Threaded Body Delrin Ball – Flat – Inch & Metric (continued)



### INCH (CONTINUED)

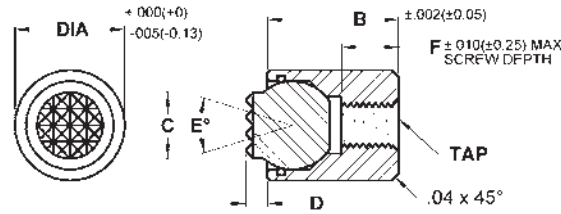
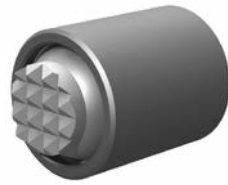
Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Int. Hex	Ball Dia.	Ball Only Part Number
<b>3/4-16 Threads</b>							
TBU-0750-D	1	3/8	1/8	40	3/8	1/2	BUB-500-D
TBU-0750-D-T	1	3/8	1/4	40	3/8	1/2	BUB-500-D-T
TBU-0750 X 2-D	2	3/8	1/8	40	3/8	1/2	BUB-500-D
TBU-0750 X 2-D-T	2	3/8	1/4	40	3/8	1/2	BUB-500-D-T
TBU-0750 X 3-D	3	3/8	1/8	40	3/8	1/2	BUB-500-D
TBU-0750 X 3-D-T	3	3/8	1/4	40	3/8	1/2	BUB-500-D-T
<b>1"-8 Threads</b>							
TBU-1108-D	1	1/2	1/8	40	3/8	5/8	BUB-600-D
TBU-1108-D-T	1	1/2	1/4	40	3/8	5/8	BUB-600-D-T
TBU-1108 X 2-D	2	1/2	1/8	40	3/8	5/8	BUB-600-D
TBU-1108 X 2-D-T	2	1/2	1/4	40	3/8	5/8	BUB-600-D-T
TBU-1108 X 3-D	3	1/2	1/8	40	3/8	5/8	BUB-600-D
TBU-1108 X 3-D-T	3	1/2	1/4	40	3/8	5/8	BUB-600-D-T
<b>1"-14 Threads</b>							
TBU-1114-D	1	5/8	1/8	34	3/8	3/4	BUB-700-D
TBU-1114-D-T	1	5/8	1/4	34	3/8	3/4	BUB-700-D-T
TBU-1114 X 2-D	2	5/8	1/8	34	3/8	3/4	BUB-700-D
TBU-1114 X 2-D-T	2	5/8	1/4	34	3/8	3/4	BUB-700-D-T
TBU-1114 X 3-D	3	5/8	1/8	34	3/8	3/4	BUB-700-D
TBU-1114 X 3-D-T	3	5/8	1/4	34	3/8	3/4	BUB-700-D-T

### METRIC

Part Number	B Thread Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Int. Hex	Ball Dia.	Ball Only Part Number
<b>M10x1.5 Threads</b>							
MTBU-10025-D	25	4	1.5	30	5	5	MBUB-050-D
MTBU-10035-D	35	4	1.5	30	5	5	MBUB-050-D
MTBU-10050-D	50	4	1.5	30	5	5	MBUB-050-D
<b>M12x1.75 Threads</b>							
MTBU-12025-D	25	6	1.5	28	6	7	MBUB-070-D
MTBU-12025-D-T	25	6	3	28	6	7	MBUB-070-D-T
MTBU-12035-D	35	6	1.5	28	6	7	MBUB-070-D
MTBU-12035-D-T	35	6	3	28	6	7	MBUB-070-D-T
MTBU-12050-D	50	6	1.5	28	6	7	MBUB-070-D
MTBU-12050-D-T	50	6	3	28	6	7	MBUB-070-D-T
<b>M16x2.0 Threads</b>							
MTBU-16025-D	25	8.5	1.5	24	8	10	MBUB-100-D
MTBU-16025-D-T	25	8.5	3	24	8	10	MBUB-100-D-T
MTBU-16035-D	35	8.5	1.5	24	8	10	MBUB-100-D
MTBU-16035-D-T	35	8.5	3	24	8	10	MBUB-100-D-T
MTBU-16050-D	50	8.5	1.5	24	8	10	MBUB-100-D
MTBU-16050-D-T	50	8.5	3	24	8	10	MBUB-100-D-T
<b>M20x2.5 Threads</b>							
MTBU-20030-D	30	10	4	42	10	13	MBUB-130-D
MTBU-20030-D-T	30	10	6	42	10	13	MBUB-130-D-T
MTBU-20050-D	50	10	4	42	10	13	MBUB-130-D
MTBU-20050-D-T	50	10	6	42	10	13	MBUB-130-D-T
MTBU-20070-D	70	10	4	42	8	13	MBUB-130-D
MTBU-20070-D-T	70	10	6	42	8	13	MBUB-130-D-T
<b>M24x3.0 Threads</b>							
MTBU-24040-D	40	12	4	45	10	15	MBUB-150-D
MTBU-24040-D-T	40	12	6	45	10	15	MBUB-150-D-T
MTBU-24080-D	80	12	4	45	10	15	MBUB-150-D
MTBU-24080-D-T	80	12	6	45	10	15	MBUB-150-D-T



**Base Design Tool Steel Ball – Serrated – Inch & Metric**



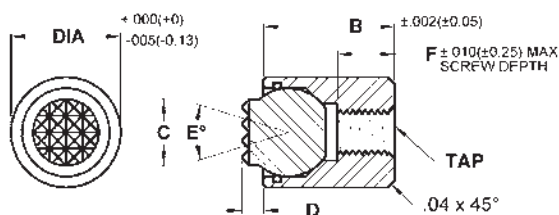
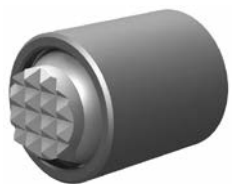
Cylindrical body allows for installation in tight areas. The housing is tapped for backside fastening. The replaceable serrated ball swivels to allow for self-alignment on uneven surfaces. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The replaceable ball is made from M-2 high speed steel heat treated to Rc 60/62. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components. See page 6 for tooth pattern specifications.

**INCH**

Part Number	B Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Thread Depth	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>3/8" Dia - #4-40 Tap</b>									
BBU-100-S	5/16	5/32	1/16	28	1/4	3/16	BUB-187-S	SF	1,835
BBU-105-S	7/16	5/32	1/16	28	5/16	3/16	BUB-187-S	SF	1,835
BBU-107-S	11/16	5/32	1/16	28	5/16	3/16	BUB-187-S	SF	1,835
<b>7/16" Dia - #8-32 Tap</b>									
BBU-200-S	3/8	1/4	1/16	28	5/32	9/32	BUB-200-S	SF	3,339
BBU-200-S-T	3/8	1/4	1/8	28	5/32	9/32	BUB-200-S-T	SF	3,339
BBU-201-S	15/16	1/4	1/16	28	1/2	9/32	BUB-200-S	SF	3,339
BBU-201-S-T	15/16	1/4	1/8	28	1/2	9/32	BUB-200-S-T	SF	3,339
<b>1/2" Dia - #10-32 Tap</b>									
BBU-300-S	1/2	5/16	1/16	28	5/32	3/8	BUB-300-S	EF	4,697
BBU-300-S-T	1/2	5/16	1/8	28	5/32	3/8	BUB-300-S-T	EF	4,697
BBU-300-SF	1/2	5/16	1/16	28	5/32	3/8	BUB-300-SF	SF	4,697
BBU-300-SF-T	1/2	5/16	1/8	28	5/32	3/8	BUB-300-SF-T	SF	4,697
BBU-301-S	1	5/16	1/16	28	5/8	3/8	BUB-300-S	EF	4,697
BBU-301-S-T	1	5/16	1/8	28	5/8	3/8	BUB-300-S-T	EF	4,697
BBU-301-SF	1	5/16	1/16	28	5/8	3/8	BUB-300-SF	SF	4,697
BBU-301-SF-T	1	5/16	1/8	28	5/8	3/8	BUB-300-SF-T	SF	4,697
<b>5/8" Dia - 1/4-28 Tap</b>									
BBU-500-S	3/4	3/8	1/8	40	1/4	1/2	BUB-500-S	EF	5,849
BBU-500-S-T	3/4	3/8	1/4	40	1/4	1/2	BUB-500-S-T	EF	5,849
BBU-500-SF	3/4	3/8	1/8	40	1/4	1/2	BUB-500-SF	SF	5,849
BBU-500-SF-T	3/4	3/8	1/4	40	1/4	1/2	BUB-500-SF-T	SF	5,849
<b>13/16" Dia - 5/16-24 Tap</b>									
BBU-600-S	7/8	1/2	1/8	40	11/32	5/8	BUB-600-S	Fine	10,925
BBU-600-S-T	7/8	1/2	1/4	40	11/32	5/8	BUB-600-S-T	Fine	10,925
BBU-600-EF	7/8	1/2	1/8	40	11/32	5/8	BUB-600-EF	EF	10,925
BBU-600-EF-T	7/8	1/2	1/4	40	11/32	5/8	BUB-600-EF-T	EF	10,925
BBU-600-SF	7/8	1/2	1/8	40	11/32	5/8	BUB-600-SF	SF	10,925
BBU-600-SF-T	7/8	1/2	1/4	40	11/32	5/8	BUB-600-S-T	SF	10,925
<b>15/16" Dia - 3/8-24 Tap</b>									
BBU-700-S	7/8	5/8	1/8	34	9/32	3/4	BUB-700-S	Fine	13,325
BBU-700-S-T	7/8	5/8	1/4	34	9/32	3/4	BUB-700-S-T	Fine	13,325
BBU-700-EF	7/8	5/8	1/8	34	9/32	3/4	BUB-700-EF	EF	13,325
BBU-700-EF-T	7/8	5/8	1/4	34	9/32	3/4	BUB-700-EF-T	EF	13,325

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## Base Design Tool Steel Ball – Serrated – Inch & Metric (continued)

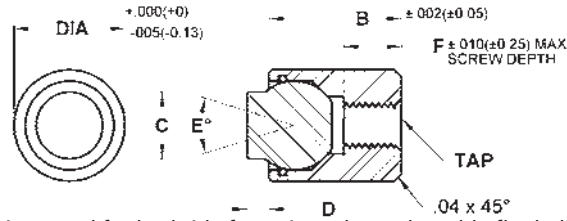


### METRIC

Part Number	B Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Thread Depth	Ball Dia.	Ball Only Part Number	Tooth Pattern	Load Rating Lbs.
<b>10mm Dia - M4x0.7 Tap</b>									
MBBU-1012-S	10.5	6	1.5	28	3.5	7	MBUB-070-S	SF	2,585
MBBU-1012-S-T	10.5	6	3	28	3.5	7	MBUB-070-S-T	SF	2,585
MBBU-1025-S	23.5	6	1.5	28	9	7	MBUB-070-S	SF	2,585
MBBU-1025-S-T	23.5	6	3	28	9	7	MBUB-070-S-T	SF	2,585
<b>13mm Dia - M5x0.8 Tap</b>									
MBBU-1316-S	14.5	8.5	1.5	24	6.5	10	MBUB-100-S	EF	4,452
MBBU-1316-S-T	14.5	8.5	3	24	6.5	10	MBUB-100-S-T	EF	4,452
MBBU-1325-S	23.5	8.5	1.5	24	9	10	MBUB-100-S	EF	4,452
MBBU-1325-S-T	23.5	8.5	3	24	9	10	MBUB-100-S-T	EF	4,452
<b>17mm Dia - M6x1.0 Tap</b>									
MBBU-1722-S	18	10	4	42	7.5	13	MBUB-130-S	EF	6,170
MBBU-1722-S-T	18	10	6	42	7.5	13	MBUB-130-S-T	EF	6,170
<b>19mm Dia - M8x1.25 Tap</b>									
MBBU-1924-S	20	12	4	45	8.5	15	MBUB-150-S	Fine	8,688
MBBU-1924-S-T	20	12	6	45	8.5	15	MBUB-150-S-T	Fine	8,688
<b>24mm Dia - M10x1.5 Tap</b>									
MBBU-2428-S	24	16	4	40	9	20	MBUB-200-S	Fine	13,117
MBBU-2428-S-T	24	16	6	40	9	20	MBUB-200-S-T	Fine	13,117

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**Base Design** Tool Steel Ball – Flat – Inch & Metric



Cylindrical body allows for installation in tight areas. The housing is tapped for backside fastening. The replaceable flat ball swivels to allow for self-alignment on uneven surfaces. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The replaceable ball is made from M-2 high speed steel heat treated to Rc 60/62. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components.

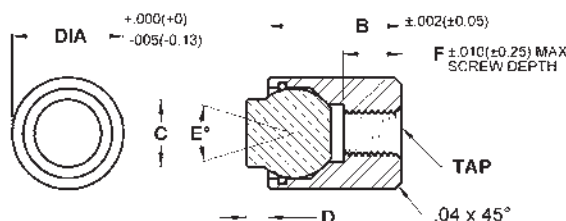
**INCH**

Part Number	B Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Thread Depth	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>3/8" Dia - #4-40 Tap</b>								
BBU-100-F	5/16	5/32	1/16	28	1/4	3/16	BUB-187-F	1,835
BBU-105-F	7/16	5/32	1/16	28	5/16	3/16	BUB-187-F	1,835
BBU-107-F	11/16	5/32	1/16	28	5/16	3/16	BUB-187-F	1,835
<b>7/16" Dia - #8-32 Tap</b>								
BBU-200-F	3/8	1/4	1/16	28	5/32	9/32	BUB-200-F	3,339
BBU-200-F-T	3/8	1/4	1/8	28	5/32	9/32	BUB-200-F-T	3,339
BBU-201-F	15/16	1/4	1/16	28	1/2	9/32	BUB-200-F	3,339
BBU-201-F-T	15/16	1/4	1/8	28	1/2	9/32	BUB-200-F-T	3,339
<b>1/2" Dia - #10-32 Tap</b>								
BBU-300-F	1/2	5/16	1/16	28	5/32	3/8	BUB-300-F	4,697
BBU-300-F-T	1/2	5/16	1/8	28	5/32	3/8	BUB-300-F-T	4,697
BBU-301-F	1	5/16	1/16	28	5/8	3/8	BUB-300-F	4,697
BBU-301-F-T	1	5/16	1/8	28	5/8	3/8	BUB-300-F-T	4,697
<b>5/8" Dia - 1/4-28 Tap</b>								
BBU-500-F	3/4	3/8	1/8	40	1/4	1/2	BUB-500-F	5,849
BBU-500-F-T	3/4	3/8	1/4	40	1/4	1/2	BUB-500-F-T	5,849
<b>13/16" Dia - 5/16-24 Tap</b>								
BBU-600-F	7/8	1/2	1/8	40	11/32	5/8	BUB-600-F	10,925
BBU-600-F-T	7/8	1/2	1/4	40	11/32	5/8	BUB-600-F-T	10,925
<b>15/16" Dia - 3/8-24 Tap</b>								
BBU-700-F	7/8	5/8	1/8	34	9/32	3/4	BUB-700-F	13,325
BBU-700-F-T	7/8	5/8	1/4	34	9/32	3/4	BUB-700-F-T	13,325

**METRIC**

Part Number	B Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Thread Depth	Ball Dia.	Ball Only Part Number	Load Rating Lbs.
<b>10mm Dia - M4x0.7 Tap</b>								
MBBU-1012-F	10.5	6	1.5	28	3.5	7	MBUB-070-F	2,585
MBBU-1012-F-T	10.5	6	3	28	3.5	7	MBUB-070-F-T	2,585
MBBU-1025-F	23.5	6	1.5	28	9	7	MBUB-070-F	2,585
MBBU-1025-F-T	23.5	6	3	28	9	7	MBUB-070-F-T	2,585
<b>13mm Dia - M5x0.8 Tap</b>								
MBBU-1316-F	14.5	8.5	1.5	24	6.5	10	MBUB-100-F	4,452
MBBU-1316-F-T	14.5	8.5	3	24	6.5	10	MBUB-100-F-T	4,452
MBBU-1325-F	23.5	8.5	1.5	24	9	10	MBUB-100-F	4,452
MBBU-1325-F-T	23.5	8.5	3	24	9	10	MBUB-100-F-T	4,452
<b>17mm Dia - M6x1.0 Tap</b>								
MBBU-1722-F	18	10	4	42	7.5	13	MBUB-130-F	6,170
MBBU-1722-F-T	18	10	6	42	7.5	13	MBUB-130-F-T	6,170
<b>19mm Dia - M8x1.25 Tap</b>								
MBBU-1924-F	20	12	4	45	8.5	15	MBUB-150-F	8,688
MBBU-1924-F-T	20	12	6	45	8.5	15	MBUB-150-F-T	8,688
<b>24mm Dia - M10x1.5 Tap</b>								
MBBU-2428-F	24	16	4	40	9	20	MBUB-200-F	13,117
MBBU-2428-F-T	24	16	6	40	9	20	MBUB-200-F-T	13,117

## Base Design Delrin Ball – Flat – Inch & Metric



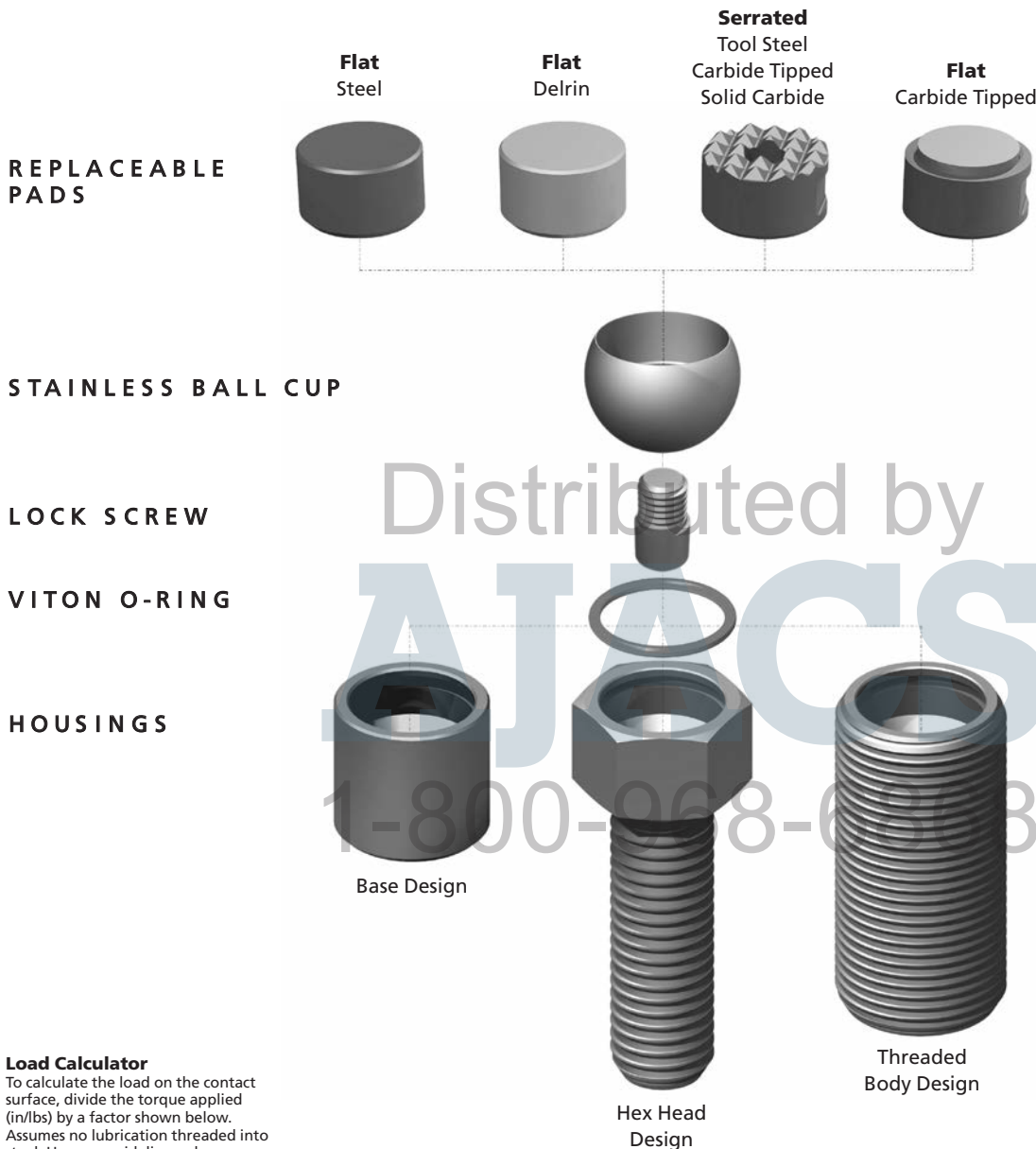
Cylindrical body allows for installation in tight areas. The housing is tapped for backside fastening. The replaceable flat ball swivels to allow for self-alignment on uneven surfaces and is made from non-marring white delrin. A Viton O-ring holds the ball in place while keeping contaminants out and providing smooth ball movement. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. Replacement balls and O-rings can be ordered separately. See page 28 for diagram of components.

INCH							
Part Number	B Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Thread Depth	Ball Dia.	Ball Only Part Number
<b>3/8" Dia - #4-40 Tap</b>							
BBU-100-D	5/16	5/32	1/16	28	1/4	3/16	BUB-187-D
BBU-105-D	7/16	5/32	1/16	28	5/16	3/16	BUB-187-D
BBU-107-D	11/16	5/32	1/16	28	5/16	3/16	BUB-187-D
<b>7/16" Dia - #8-32 Tap</b>							
BBU-200-D	3/8	1/4	1/16	28	5/32	9/32	BUB-200-D
BBU-200-D-T	3/8	1/4	1/8	28	5/32	9/32	BUB-200-D-T
BBU-201-D	15/16	1/4	1/16	28	1/2	9/32	BUB-200-D
BBU-201-D-T	15/16	1/4	1/8	28	1/2	9/32	BUB-200-D-T
<b>1/2" Dia - #10-32 Tap</b>							
BBU-300-D	1/2	5/16	1/16	28	5/32	3/8	BUB-300-D
BBU-300-D-T	1/2	5/16	1/8	28	5/32	3/8	BUB-300-D-T
BBU-301-D	1	5/16	1/16	28	5/8	3/8	BUB-300-D
BBU-301-D-T	1	5/16	1/8	28	5/8	3/8	BUB-300-D-T
<b>5/8" Dia - 1/4-28 Tap</b>							
BBU-500-D	3/4	3/8	1/8	40	1/4	1/2	BUB-500-D
BBU-500-D-T	3/4	3/8	1/4	40	1/4	1/2	BUB-500-D-T
<b>13/16" Dia - 5/16-24 Tap</b>							
BBU-600-D	7/8	1/2	1/8	40	11/32	5/8	BUB-600-D
BBU-600-D-T	7/8	1/2	1/4	40	11/32	5/8	BUB-600-D-T
<b>15/16" Dia - 3/8-24 Tap</b>							
BBU-700-D	7/8	5/8	1/8	34	9/32	3/4	BUB-700-D
BBU-700-D-T	7/8	5/8	1/4	34	9/32	3/4	BUB-700-D-T

METRIC							
Part Number	B Length	C Contact Dia.	D Stand Off	E Degree Swivel	F Thread Depth	Ball Dia.	Ball Only Part Number
<b>10mm Dia - M4x0.7 Tap</b>							
MBBU-1012-D	10.5	6	1.5	28	3.5	7	MBUB-070-D
MBBU-1012-D-T	10.5	6	3	28	3.5	7	MBUB-070-D-T
MBBU-1025-D	23.5	6	1.5	28	9	7	MBUB-070-D
MBBU-1025-D-T	23.5	6	3	28	9	7	MBUB-070-D-T
<b>13mm Dia - M5x0.8 Tap</b>							
MBBU-1316-D	14.5	8.5	1.5	24	6.5	10	MBUB-100-D
MBBU-1316-D-T	14.5	8.5	3	24	6.5	10	MBUB-100-D-T
MBBU-1325-D	23.5	8.5	1.5	24	9	10	MBUB-100-D
MBBU-1325-D-T	23.5	8.5	3	24	9	10	MBUB-100-D-T
<b>17mm Dia - M6x1.0 Tap</b>							
MBBU-1722-D	18	10	4	42	7.5	13	MBUB-130-D
MBBU-1722-D-T	18	10	6	42	7.5	13	MBUB-130-D-T
<b>19mm Dia - M8x1.25 Tap</b>							
MBBU-1924-D	20	12	4	45	8.5	15	MBUB-150-D
MBBU-1924-D-T	20	12	6	45	8.5	15	MBUB-150-D-T
<b>24mm Dia - M10x1.5 Tap</b>							
MBBU-2428-D	24	16	4	40	9	20	MBUB-200-D
MBBU-2428-D-T	24	16	6	40	9	20	MBUB-200-D-T

# Swivots® Replaceable Swivel Pad Style

These Replaceable Pad Style Swivots® are found on the following pages.



REPLACEABLE PADS

STAINLESS BALL CUP

LOCK SCREW

VITON O-RING

HOUSINGS

Base Design

Hex Head Design

Threaded Body Design

### Load Calculator

To calculate the load on the contact surface, divide the torque applied (in/lbs) by a factor shown below. Assumes no lubrication threaded into steel. Use as a guideline only.

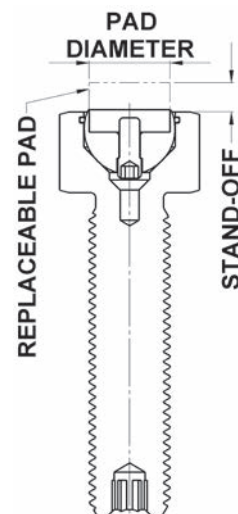
Inch		
Thread	Factor	Thread Factor
#10-24	0.036	1/2-13 0.093
#10-32	0.035	1/2-20 0.091
1/4-20	0.047	5/8-11 0.116
1/4-28	0.046	5/8-18 0.113
5/16-18	0.059	3/4-10 0.138
5/16-24	0.058	3/4-16 0.135
3/8-16	0.070	1-8 0.183
3/8-24	0.068	1-14 0.180

Metric		
Thread	Factor	Thread Factor
M6x1.00	0.044	M16x2.00 0.116
M8x1.25	0.058	M20x2.50 0.144
M10x1.50	0.073	M24x3.00 0.173
M12x1.75	0.087	

- These Replaceable Pad Style Swivots are a modular component system that allows the pad and ball cup to swivel, tilt, clamp, grip, hold, position or secure work pieces. The internal ball cup allows the pad to rotate 360 degrees and tilt at varying degrees in any direction from the centerline.
- The interchangeable parts help to speed set ups and changeovers. The Replaceable Pads allow you to easily change the pad when worn or another style is needed for an application. The swivel assemblies include the housing, O-ring, lock screw and ball cup. Pads must be ordered separately.
- The ball cup is held in place with an O-ring which allows the pad to swivel and keeps out dirt and contaminants.
- The pad can easily be replaced by pulling the ball cup out of the housing and unscrewing the lock screw which holds the pad into the ball cup.

## To select the proper pad:

1. Determine the diameter of the pad for the housing assembly. This can be found on the following pages under "Replaceable Pad Dia."
2. Determine the "Stand Off" dimension required using the information below:

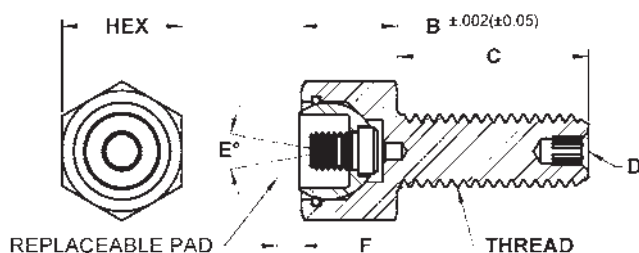


- 3/8" Pad Height provides 1/8" Stand Off
- 1/2" Pad Height provides 1/4" Stand Off
- 10mm Pad Height provides 4mm Stand Off
- 12mm Pad Height provides 6mm Stand Off

3. Select any Round Fixed Gripper or Rest Pad with the proper diameter and stand off that has a tapped hole.

If you need additional assistance selecting the proper pad or ordering replacement parts, please contact us.

## Hex Head Inch &amp; Metric



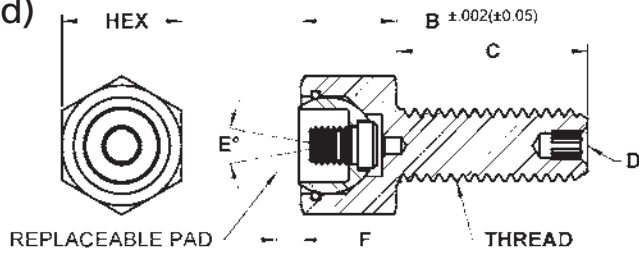
The replaceable pad swivels to allow for self-alignment on uneven surfaces. The replaceable pad fits in a hardened (Rc 58/60) 440c stainless ball cup and is held in place with a lock screw. The pad can be replaced when worn or a different style pad is required. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The parts below are for the Swivot assembly only and do not include a pad. Pads must be ordered separately. See page 47 for diagram of components.

INCH									
Part Number	B Head Height	C Thread Length	D Int. Hex	E Degree Swivel	F* Stand Off 1	F* Stand Off 2	Ball Dia.	Replaceable Pad Dia.**	Load Rating Lbs.
<b>3/8-16 Threads - 5/8" Hex Head</b>									
BUH-0370	1/2	1/2	1/8	20	1/8	1/4	1/2	3/8	3,446
BUH-0375	1/2	1	1/8	20	1/8	1/4	1/2	3/8	3,446
BUH-0375 X 1.5	1/2	1-1/2	1/8	20	1/8	1/4	1/2	3/8	3,446
<b>3/8-24 Threads - 5/8" Hex Head</b>									
BUH-0230	1/2	1/2	1/8	20	1/8	1/4	1/2	3/8	3,446
BUH-0231	1/2	1	1/8	20	1/8	1/4	1/2	3/8	3,446
BUH-0231 X 1.5	1/2	1-1/2	1/8	20	1/8	1/4	1/2	3/8	3,446
<b>1/2-13 Threads - 13/16" Hex Head</b>									
BUH-0510	5/8	1	3/16	24	1/8	1/4	5/8	1/2	5,937
BUH-0515	5/8	1-1/2	3/16	24	1/8	1/4	5/8	1/2	5,937
<b>1/2-20 Threads - 13/16" Hex Head</b>									
BUH-0240	5/8	1	3/16	24	1/8	1/4	5/8	1/2	7,178
BUH-0500	5/8	1-1/2	3/16	24	1/8	1/4	5/8	1/2	7,178
<b>5/8-11 Threads - 15/16" Hex Head</b>									
BUH-0625	11/16	1	1/4	22	1/8	1/4	3/4	5/8	9,932
BUH-0625 X 2	11/16	2	1/4	22	1/8	1/4	3/4	5/8	9,932
<b>5/8-18 Threads - 15/16" Hex Head</b>									
BUH-0620	11/16	1	1/4	22	1/8	1/4	3/4	5/8	11,874
BUH-0620 X 2	11/16	2	1/4	22	1/8	1/4	3/4	5/8	11,874
<b>3/4-10 Threads - 1-1/8" Hex Head</b>									
BUH-0755	3/4	1	5/16	20	1/8	1/4	7/8	3/4	14,862
BUH-0755 X 2.5	3/4	2-1/2	5/16	20	1/8	1/4	7/8	3/4	14,862
<b>3/4-16 Threads - 1-1/8" Hex Head</b>									
BUH-0750	3/4	1	5/16	20	1/8	1/4	7/8	3/4	13,565
BUH-0750 X 2.5	3/4	2-1/2	5/16	20	1/8	1/4	7/8	3/4	13,565
<b>1"-8 Threads - 1-1/2" Hex Head</b>									
BUH-1108 X 2	1	2	3/8	20	1/8	1/4	1 1/8	1	28,158
BUH-1108 X 4	1	4	3/8	20	1/8	1/4	1 1/8	1	28,158
<b>1"-14 Threads - 1-1/2" Hex Head</b>									
BUH-1114 X 2	1	2	3/8	20	1/8	1/4	1 1/8	1	26,234
BUH-1114 X 4	1	4	3/8	20	1/8	1/4	1 1/8	1	26,234

\* F1 – Stand off with 3/8" height pad; F2 – Stand off with 1/2" height pad.

\*\* Select any fixed gripper or rest pad with the proper diameter and tapped hole.

**Hex Head** Inch & Metric (continued)

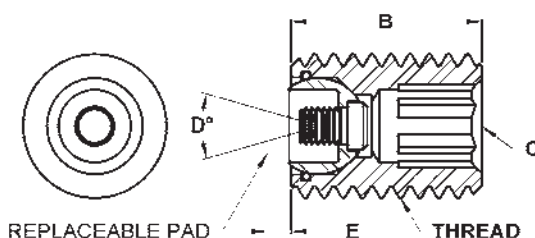


<b>METRIC</b>									
Part Number	B Head Height	C Thread Length	D Int. Hex	E Degree Swivel	F* Stand Off 1	F* Stand Off 2	Ball Dia.	Replaceable Pad Dia.**	Load Rating Lbs.
<b>M10x1.5 Threads - 17mm Hex Head</b>									
MBUH-10015	13	15	3	20	4	6	13	10	4,194
MBUH-10030	13	30	3	20	4	6	13	10	4,194
MBUH-10050	13	50	3	20	4	6	13	10	4,194
<b>M12x1.75 Threads - 19mm Hex Head</b>									
MBUH-12020	15	20	5	20	4	6	15	12	6,627
MBUH-12040	15	40	5	20	4	6	15	12	6,627
MBUH-12060	15	60	5	20	4	6	15	12	6,627
<b>M16x2 Threads - 24mm Hex Head</b>									
MBUH-16025	19	25	6	20	4	6	20	16	11,193
MBUH-16050	19	50	6	20	4	6	20	16	11,193
MBUH-16080	19	80	6	20	4	6	20	16	11,193
<b>M20x2.5 Threads - 30mm Hex Head</b>									
MBUH-20030	20	30	8	20	4	6	23	20	19,136
MBUH-20060	20	60	8	20	4	6	23	20	19,136
MBUH-20100	20	100	8	20	4	6	23	20	19,136
<b>M24x3.0 Threads - 36mm Hex Head</b>									
MBUH-24040	26	40	10	20	4	6	28	25	27,239
MBUH-24100	26	100	10	20	4	6	28	25	27,239

\* F1 – Stand off with 10mm height pad; F2 – Stand off with 12mm height pad.  
 \*\* Select any fixed gripper or rest pad with the proper diameter and tapped hole.

1-800-968-6868

## Threaded Body Inch & Metric



The replaceable pad swivels to allow for self-alignment on uneven surfaces. The replaceable pad fits in a hardened (Rc 58/60) 440c stainless ball cup and is held in place with a lock screw. The pad can be replaced when worn or a different style pad is required. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The parts below are for the Swivot assembly only and do not include a pad. Pads must be ordered separately. See page 47 for diagram of components.

### INCH

Part Number	B Length	C Int. Hex	D Degree Swivel	E* Stand Off 1	E* Stand Off 2	Ball Dia.	Replaceable Pad Dia.**	Load Rating Lbs.
<b>3/4-10 Threads</b>								
TBU-0755	1	3/8	20	1/8	1/4	1/2	3/8	8,150
TBU-0755 X 2	2	3/8	20	1/8	1/4	1/2	3/8	8,150
TBU-0755 X 3	3	3/8	20	1/8	1/4	1/2	3/8	8,150
<b>3/4-16 Threads</b>								
TBU-0750	1	3/8	20	1/8	1/4	1/2	3/8	8,150
TBU-0750 X 2	2	3/8	20	1/8	1/4	1/2	3/8	8,150
TBU-0750 X 3	3	3/8	20	1/8	1/4	1/2	3/8	8,150
<b>1"-8 Threads</b>								
TBU-1108 X 2	2	3/8	24	1/8	1/4	5/8	1/2	14,757
TBU-1108 X 3	3	3/8	24	1/8	1/4	5/8	1/2	14,757
<b>1"-14 Threads</b>								
TBU-1114 X 2	2	3/8	34	1/8	1/4	3/4	5/8	17,210
TBU-1114 X 3	3	3/8	34	1/8	1/4	3/4	5/8	17,210

\* E1 – Stand off with 3/8" height pad; E2 – Stand off with 1/2" height pad.

\*\* Select any fixed gripper or rest pad with the proper diameter and tapped hole.

### METRIC

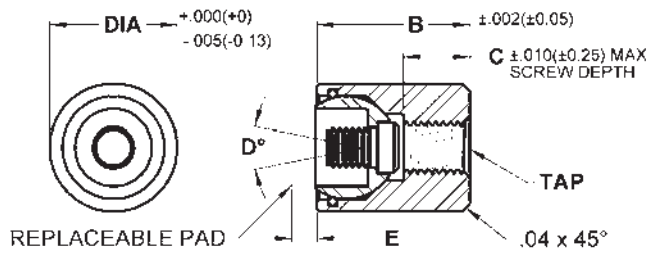
Part Number	B Length	C Int. Hex	D Degree Swivel	E Stand Off 1	E Stand Off 2	Ball Dia.	Replaceable Pad Dia.**	Load Rating Lbs.
<b>M20x2.5 Threads</b>								
MTBU-20030	30	10	20	4	6	13	10	8,379
MTBU-20050	50	10	20	4	6	13	10	8,379
MTBU-20070	70	10	20	4	6	13	10	8,379
<b>M24x3.0 Threads</b>								
MTBU-24040	40	10	20	4	6	15	12	12,233
MTBU-24080	80	10	20	4	6	15	12	12,233

\*E1 – Stand off with 10mm height pad; E2 – Stand off with 12mm height pad.

\*\* Select any fixed gripper or rest pad with the proper diameter and tapped hole.



**Base Design** Inch & Metric



The replaceable pad swivels to allow for self-alignment on uneven surfaces. Cylindrical body allows for installation in tight areas. The housing is tapped for backside fastening. The replaceable pad fits in a hardened (Rc 58/60) 440c stainless ball cup and is held in place with a lock screw. The pad can be replaced when worn or a different style pad is required. The housing is made from alloy steel, heat treated to Rc 43/46 with black oxide finish. The parts below are for the Swivot assembly only and do not include a pad. Pads must be ordered separately. See page 47 for diagram of components.

**INCH**

Part Number	B Length	C Screw Depth	D Degree Swivel	E* Stand Off 1	E* Stand Off 2	Ball Dia.	Replaceable Pad Dia.**	Load Rating Lbs.
<b>5/8" Dia - 1/4-28 Tap</b>								
BBU-500	3/4	15/64	20	1/8	1/4	1/2	3/8	5,849
<b>13/16" Dia - 5/16-24 Tap</b>								
BBU-600	7/8	11/32	24	1/8	1/4	5/8	1/2	10,925
<b>15/16" Dia - 3/8-24 Tap</b>								
BBU-700	7/8	9/32	22	1/8	1/4	3/4	5/8	13,325
<b>1-1/8" Dia - 1/2-20 Tap</b>								
BBU-800	15/16	17/64	20	1/8	1/4	7/8	3/4	18,863
<b>1-1/2" Dia - 1/2-20 Tap</b>								
BBU-1100	1-1/4	7/16	20	1/8	1/4	1-1/8	1	34,619

\*E1 – Stand off with 3/8" height pad; E2 – Stand off with 1/2" height pad.  
 \*\* Select any fixed gripper or rest pad with the proper diameter and tapped hole.

**METRIC**

Part Number	B Length	C Screw Depth	D Degree Swivel	E* Stand Off 1	E* Stand Off 2	Ball Dia.	Replaceable Pad Dia.**	Load Rating Lbs.
<b>17mm Dia - M6x1.0 Tap</b>								
MBBU-1722	18	7.5	20	4	6	13	10	6,170
<b>19mm Dia - M8x1.25 Tap</b>								
MBBU-1924	20	8.5	20	4	6	15	12	8,688
<b>24mm Dia - M10x1.50 Tap</b>								
MBBU-2428	24	9	20	4	6	20	16	13,122
<b>30mm Dia - M12x1.75 Tap</b>								
MBBU-3030	26	8.5	20	4	6	23	20	21,348
<b>36mm Dia - M12x1.75 Tap</b>								
MBBU-3636	32	12	20	4	6	28	25	30,558

\*E1 – Stand off with 10mm height pad; E2 – Stand off with 12mm height pad.  
 \*\* Select any fixed gripper or rest pad with the proper diameter and tapped hole.

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All items listed in this catalog are sold through a network of approved distributors. Original Equipment Manufacturers (OEM) may be able to purchase directly based on quantity, item and other criteria. Please call us at 586-294-6100 for assistance with any questions about purchasing or locating a distributor.

## Website

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## Business Hours

Representatives are available to assist you from 8:00 a.m. to 4:30 p.m. Eastern Time, Monday through Friday.

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OEM quantity price discounts are available for many items and apply to the quantity of each specific part. We do our best to hold pricing, however, any published prices are subject to change without notice. Quoted prices will be valid for 30 days.

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All items in this catalog are normally stocked. Backordered parts are always given a high priority and will ship as soon as they become available. For OEM customers, normal shipment is UPS – FOB Fraser Michigan unless otherwise noted. Shipping charges are prepaid and added to the invoice. Special charges and guidelines apply to shipments outside the United States. Buyers are responsible for all applicable taxes and duties on international shipments.

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