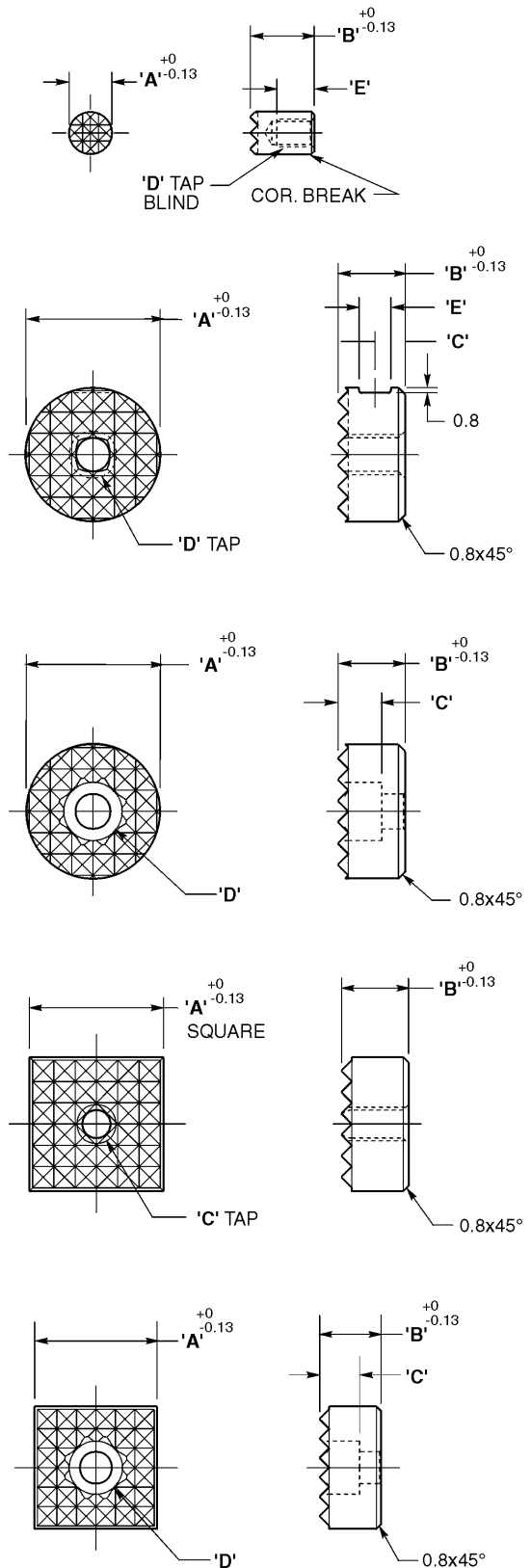


# Metric Grippers "EMHS" High Speed Tool Steel

"EMHS" ROUND DESIGN							
CAD FILE NAME	PART NUMBER	A	B	C	D	E	TOOTH PATTERN
EMHS060	EMHS-060	6	10	-	M3 x 0.5	5	SUPER-FINE
	EMHS-062	6	12	-	M3 x 0.5	7	SUPER-FINE
EMHS080	EMHS-080	8	10	-	M4 x 0.7	5	SUPER-FINE
	EMHS-082	8	12	-	M4 x 0.7	7	SUPER-FINE
EMHS100	EMHS-100	10	10	4.5	M5 x 0.8	4.7	EX-FINE
	EMHS-102	10	12	6	M5 x 0.8	4.7	EX-FINE
EMHS120	EMHS-120	12	10	4.5	M5 x 0.8	4.7	FINE
	EMHS-122	12	12	6	M5 x 0.8	4.7	FINE
EMHS160	EMHS-160	16	10	4.5	M5 x 0.8	4.7	FINE
	EMHS-162	16	12	6	M6 x 1.0	4.7	FINE
EMHS200	EMHS-200	20	10	4.5	M6 x 1.0	4.7	FINE
	EMHS-202	20	12	6	M6 x 1.0	4.7	FINE
EMHS250	EMHS-250	25	10	4.5	M6 x 1.0	4.7	FINE
	EMHS-252	25	12	6	M6 x 1.0	4.7	FINE
"EMHS" ROUND DESIGN-C'BORE							
EMHS120C	EMHS-120-C	12	10	5.6	M4 SHCS	-	FINE
	EMHS-122-C	12	12	5.6	M4 SHCS	-	FINE
EMHS160C	EMHS-160-C	16	10	5.6	M4 SHCS	-	FINE
	EMHS-162-C	16	12	5.6	M4 SHCS	-	FINE
EMHS200C	EMHS-200-C	20	10	6.6	M5 SHCS	-	FINE
	EMHS-202-C	20	12	6.6	M5 SHCS	-	FINE
EMHS250C	EMHS-250-C	25	10	7.6	M6 SHCS	-	FINE
	EMHS-252-C	25	12	7.6	M6 SHCS	-	FINE

EMHS-SQUARE DESIGN					
CAD FILE NAME	PART NUMBER	A SQUARE	B	C	TOOTH PATTERN
EMHS9100	EMHS-9100	10	10	M5 x 0.8	EX-FINE
	EMHS-9102	10	12	M5 x 0.8	EX-FINE
EMHS9120	EMHS-9120	12	10	M5 x 0.8	FINE
	EMHS-9122	12	12	M5 x 0.8	FINE
EMHS9160	EMHS-9160	16	10	M6 x 1.0	FINE
	EMHS-9162	16	12	M6 x 1.0	FINE
EMHS9200	EMHS-9200	20	10	M5 x 0.8	FINE
	EMHS-9202	20	12	M5 x 0.8	FINE
EMHS9250	EMHS-9250	25	10	M6 x 1.0	FINE
	EMHS-9252	25	12	M6 x 1.0	FINE

EMHS-SQUARE-"C"-BORE DESIGN																		
CAD FILE NAME	PART NUMBER	A SQUARE	B	C	D C'BORE	TOOTH PATTERN												
EMHS9120C	EMHS-9120-C	12	10	5.6	M4 SHCS	FINE												
	EMHS-9122-C	12	12	5.6	M4 SHCS	FINE												
EMHS9160C	EMHS-9160-C	16	10	5.6	M4 SHCS	FINE												
	EMHS-9160-C	16	12	5.6	M4 SHCS	FINE												
EMHS9200C	EMHS-9200-C	20	10	6.6	M5 SHCS	FINE												
	EMHS-9202-C	20	12	6.6	M5 SHCS	FINE </tr <tr> <td rowspan="2">EMHS9250C</td> <td>EMHS-9250-C</td> <td>25</td> <td>10</td> <td>7.6</td> <td>M6 SHCS</td> <td>FINE</td> </tr> <tr> <td>EMHS-9252-C</td> <td>25</td> <td>12</td> <td>7.6</td> <td>M6 SHCS</td> <td>FINE</td> </tr>	EMHS9250C	EMHS-9250-C	25	10	7.6	M6 SHCS	FINE	EMHS-9252-C	25	12	7.6	M6 SHCS
EMHS9250C	EMHS-9250-C	25	10	7.6	M6 SHCS	FINE												
	EMHS-9252-C	25	12	7.6	M6 SHCS	FINE												

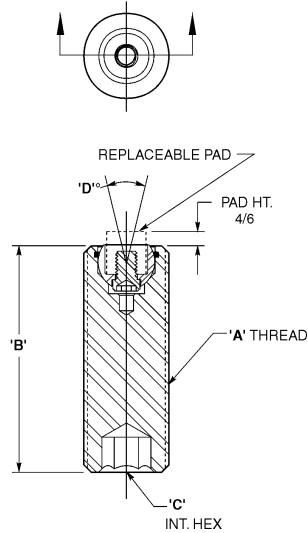


CAD Directory  
Mach-Tool\Met-Gripper

**Note:** The shortest standard component is given, you may "stretch" the unit to the desired length.

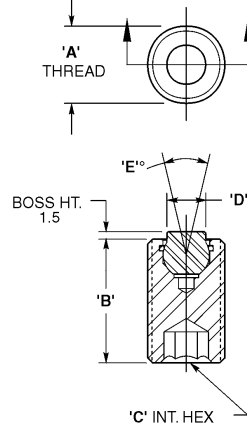
All dimensions are in mm

# Metric Swivots-Threaded Design



REPLACEABLE PAD STYLE												
ASSEMBLIES							COMPONENTS					
CAD FILE NAME (see note below)	PART NUMBER	A THREAD	B LGTH	C INT HEX	D DEGREE SWIVEL	BALL DIA	1* REPLACE PAD DIA	2 O-RING	3 BALL	4 LOCK SCREW	5 HOUSING	LOAD RATING
EMTBU20030	EMTBU-20030	M20 x 2.5	30	10	42°	13	10	EMBUR-130	EMBUB-130	EMBUS-130	EMTBU-20030	8379
	EMTBU-20050	M20 x 2.5	50	10	28°	13	10	EMBUR-150	EMBUB-150	EMBUS-150	EMTBU-20050	8379
	EMTBU-20070	M20 x 2.5	70	8	28°	13	10	EMBUR-130	EMBUB-130	EMBUS-130	EMTBU-20070	8379
EMTBU24040	EMTBU-24040	M24 x 3.0	40	10	22°	15	12	EMBUR-150	EMBUB-150	EMBUS-150	EMTBU-24040	12233
	EMTBU-24080	M24 x 1.0	80	10	22°	15	12	EMBUR-150	EMBUB-150	EMBUS-150	EMTBU-24040	12233

\*MUST PURCHASE REPLACEABLE PAD SEPARATELY (REFER TO PAGE E-60, E-61 OR E-67).



REPLACEABLE BALL STYLE												
ASSEMBLIES							COMPONENTS					
CAD FILE NAME (see note below)	PART NUMBER	A THREAD	B LGTH	C INT HEX	D BOSS DIA	E DEGREE SWIVEL	BALL DIA	1 BALL	2 O-RING	3 HOUSING	AVAIL TOOTH PATTERN	LOAD RATING
EMTBU12025F or EMTBU12025S	EMTBU-12025*	M12 x 1.75	25	6	6	28°	7	EMBUB-070-(* )	EMBUR-070	EMTBU-12025-H	SF	3440
	EMTBU-12035*	M12 x 1.75	35	6	6	28°	7	EMBUB-070-(* )	EMBUR-070	EMTBU-12035-H	SF	3440
	EMTBU-12050*	M12 x 1.75	50	6	6	28°	7	EMBUB-070-(* )	EMBUR-070	EMTBU-12050-H	SF	3440
EMTBU16025F or EMTBU16025S	EMTBU-16025*	M16 x 2.0	25	8	8.5	24°	10	EMBUB-100-(* )	EMBUR-100	EMTBU-16025-H	EF/SF	5190
	EMTBU-16035*	M16 x 2.0	35	8	8.5	24°	10	EMBUB-100-(* )	EMBUR-100	EMTBU-16035-H	EF/SF	5190
	EMTBU-16050	M16 x 2.0	50	8	8.5	24°	10	EMBUB-100-(* )	EMBUR-100	EMTBU-16050-H	EF/SF	5190
EMTBU20030F or EMTBU20030S	EMTBU-20030	M20 x 2.5	25	10	10	42°	13	EMBUB-130-(* )	EMBUR-130	EMTBU-20030-H	EF/SF	8379
	EMTBU-20050	M20 x 2.5	35	10	10	42°	13	EMBUB-130-(* )	EMBUR-130	EMTBU-20050-H	EF/SF	8379
	EMTBU-20070	M20 x 2.5	50	8	10	42°	13	EMBUB-130-(* )	EMBUR-130	EMTBU-20070-H	EF/SF	8379

\*MUST PURCHASE REPLACEABLE PAD SEPARATELY (REFER TO PAGE E-60, E-61 OR E-67).

## CAD Directory

Mach-Tool\Met-Gripper

All dimensions are in mm

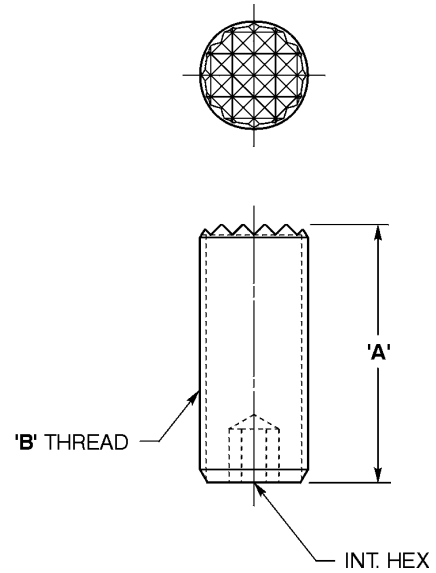
**Note:** The shortest standard component is given, you may "stretch" the unit to the desired length.

# Metric Grippers "EMHS" High Speed Tool Steel

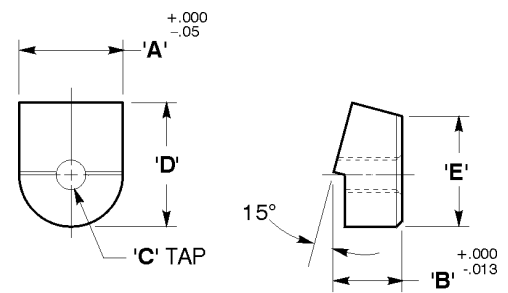


Metric

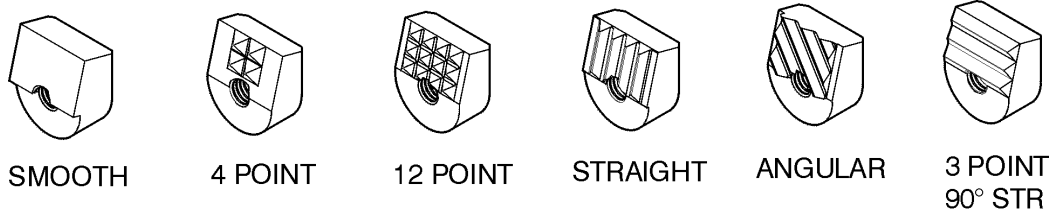
ENHS-ADJUSTABLE					
CAD FILE NAME	PART NUMBER	A	B	INT HEX	TOOTH PATTERN
EMHS1015040	EMHS-10150x40	40	M10 x 1.5	3	EX-FINE
EMHS1217525	EMHS-12175x25	25	M12 x 1.7	5	EX-FINE
EMHS1217540	EMHS-12175x40	40	M12 x 1.7	5	FINE
EMHS1620040	EMHS-16200x40	40	M16 x 2.0	6	FINE
EMHS2025040	EMHS-20250x40	40	M20 x 2.5	8	FINE



EMHS-ANGLE GRIP							
CAD FILE NAME	PART NUMBER	A	B	C	D	E	TOOTH PATTERN
EMHS1274	EMHS-127-4	14.3	9.5	M5 x 0.8	16.5	15.2	4-POINT
EMHS12712	EMHS-127-12	14.3	9.5	M5 x 0.8	16.5	15.2	FINE
EMHS1304	EMHS-130-4	14.3	9.5	M5 x 0.8	16.5	15.2	STRAIGHT
EMHS1455	EMHS-145-5	14.3	9.5	M5 x 0.8	16.5	15.2	ANGULAR
EMHS11010MM	EMHS-110-10MM	10.0	9.5	M5 x 0.8	16.5	15.2	SMOOTH
EMHS127410MM	EMHS-127-4-10MM	10.0	9.5	M5 x 0.8	16.5	15.2	4-POINT
EMHS130410MM	EMHS-130-4-10MM	10.0	9.5	M5 x 0.8	16.5	15.2	STRAIGHT
EMHS145510MM	EMHS-145-5-10MM	10.0	9.5	M5 x 0.8	16.5	15.2	ANGULAR



EMHS-110-10MM SHOWN

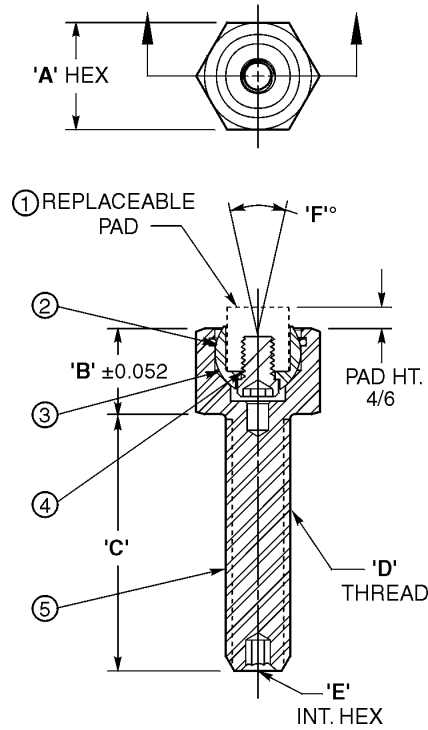


**CAD Directory**  
Mach-Tool\Met-Gripper

**Note:** The shortest standard component is given, you may "stretch" the unit to the desired length.

All dimensions are in mm

# Metric Swivots – Hex Head Adjustable – Pad Style



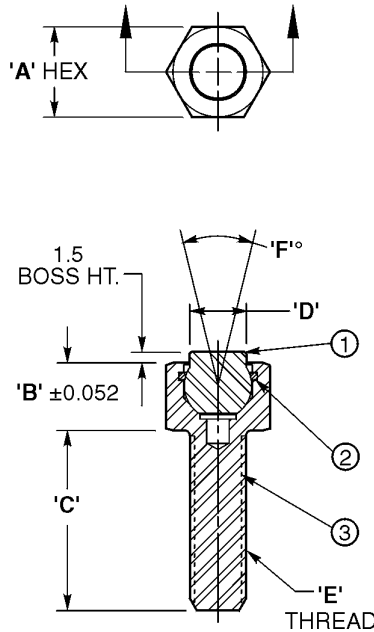
HEX HEAD ADJUSTABLE DESIGN-REPLACEABLE PAD STYLE														
ASSEMBLIES								COMPONENTS						
CAD FILE NAME (see note below)	PART NUMBER	A HEX	B HEAD HT	C THD LENGTH	D THD SIZE	E INT HEX	F DEGREE SWIVEL	BALL DIA	1 REPLACE PAD DIA	2 O-RING	3 BALL	4 LOCK SCREW	5 HOUSING	LOAD RATING LBS
EMBUH10015	EMBUH-10015	17	13	15	M10 x 1.5	3.0	42	13	10	EMBUR-130	EMBUB-100	EMBUS-130	EMBUH-10015-H	4194
	EMBUH-10030	17	13	30	M10 x 1.5	3.0	42	13	10	EMBUR-130	EMBUB-100	EMBUS-130	EMBUH-10030-H	4194
	EMBUH-10050	17	13	50	M10 x 1.5	3.0	42	13	10	EMBUR-130	EMBUB-100	EMBUS-130	EMBUH-10050-H	4194
EMBUH12020	EMBUH-12020	19	15	20	M12 x 1.75	5.0	22	15	12	EMBUR-150	EMBUB-150	EMBUS-150	EMBUH-12020-H	6627
	EMBUH-12040	19	15	40	M12 x 1.75	5.0	22	15	12	EMBUR-150	EMBUB-150	EMBUS-150	EMBUH-12040-H	6627
	EMBUH-12060	19	15	60	M12 x 1.75	5.0	22	15	12	EMBUR-150	EMBUB-150	EMBUS-150	EMBUH-12060-H	6627
EMBUH16025	EMBUH-16025	24	19	25	M16 x 2.0	6.0	22	20	16	EMBUR-200	EMBUB-200	EMBUS-200	EMBUH-16025-H	11193
	EMBUH-16050	24	19	25	M16 x 2.0	6.0	22	20	16	EMBUR-200	EMBUB-200	EMBUS-200	EMBUH-16050-H	11193
	EMBUH-16080	24	19	25	M16 x 2.0	6.0	22	20	16	EMBUR-200	EMBUB-200	EMBUS-200	EMBUH-16080-H	11193
EMBUH20030	EMBUH-20030	30	20	30	M20 x 2.5	8.0	20	23	20	EMBUR-230	EMBUB-230	EMBUS-230	EMBUH-20030-H	19136
	EMBUH-20060	30	20	30	M20 x 2.5	8.0	20	23	20	EMBUR-230	EMBUB-230	EMBUS-230	EMBUH-20060-H	19136
	EMBUH-20100	30	20	30	M20 x 2.5	8.0	20	23	20	EMBUR-230	EMBUB-230	EMBUS-230	EMBUH-20100-H	19136
EMBUH24040	EMBUH-24040	36	26	40	M24 x 3.0	10.0	20	28	25	EMBUR-280	EMBUB-280	EMBUS-280	EMBUH-24040-H	27239
	EMBUH-24100	36	26	40	M24 x 3.0	10.0	20	28	25	EMBUR-280	EMBUB-280	EMBUS-280	EMBUH-24100-H	27239

\*MUST PURCHASE REPLACEABLE PAD SEPARATELY (REFER TO PAGE E-60, E-61 OR E-67)

# Metric Swivots – Hex Head Adjustable – Ball Style



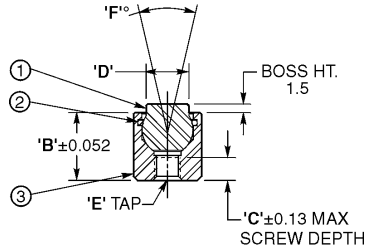
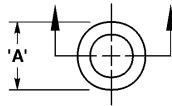
Metric



HEX HEAD ADJUSTABLE DESIGN-REPLACEABLE BALL STYLE												
CAD FILE NAME (see note below)	PART NUMBER	ASSEMBLIES						COMPONENTS				
		A HEX	B HEAD HT	C THD LENGTH	D BOSS DIA	E THD	F DEGREE SWIVEL	BALL DIA	1 O-RING	2 BALL	3 HOUSING	LOAD RATING LBS.
EMBUH06012S or EMBUH0612F	EMBUH-06012-(* )	10	9.5	12	6	M6 x 1.0	20'	7	EMBUR-070	EMBUB-070-(* )	EMBUR-06012-H	2061
	EMBUH-06025-(* )	10	9.5	25	6	M6 x 1.0	20'	7	EMBUR-070	EMBUB-070-(* )	EMBUR-06025-H	2061
	EMBUH-06040-(* )	10	9.5	40	6	M6 x 1.0	20'	7	EMBUR-070	EMBUB-070-(* )	EMBUR-06040-H	2061
EMBUH08012S or EMBUH08012F	EMBUH-08012-(* )	13	13	12	8.5	M8 x 1.25	24'	10	EMBUR-100	EMBUB-100-(* )	EMBUR-08012-H	3450
	EMBUH-08025-(* )	13	13	25	8.5	M8 x 1.25	24'	10	EMBUR-100	EMBUB-100-(* )	EMBUR-08025-H	3450
	EMBUH-08040-(* )	13	13	40	8.5	M8 x 1.25	24'	10	EMBUR-100	EMBUB-100-(* )	EMBUR-08040-H	3450
EMBUH10015S or EMBUH10015F	EMBUH-10015-(* )	17	14.5	15	10	M10 x 1.5	42'	13	EMBUR-130	EMBUB-130-(* )	EMBUR-10015-H	4194
	EMBUH-10030-(* )	17	14.5	30	10	M10 x 1.5	42'	13	EMBUR-130	EMBUB-130-(* )	EMBUR-10030-H	4194
	EMBUH-10050-(* )	17	14.5	50	10	M10 x 1.5	42'	13	EMBUR-130	EMBUB-130-(* )	EMBUR-10050-H	4194

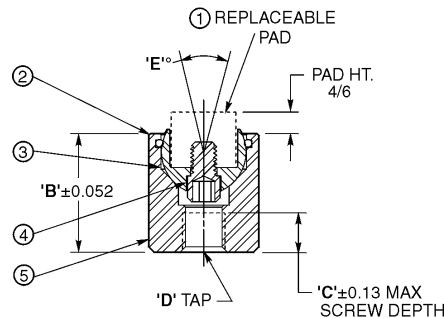
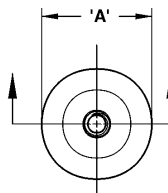
\*MUST SPECIFY STYLE OF BALL BY INDICATING "S" FOR SERRATED, "F" FOR FLAT OR "D" FOR DELRIN

# Metric Swivots-Base Design



REPLACEABLE BALL STYLE														
ASSEMBLIES								COMPONENTS						
CAD FILE NAME	PART NUMBER	A DIA	B HGT	C	D BOSS DIA	E TAP	F DEGREE SWIVEL	BALL DIA	1 BALL	2 O-RING	3 HOUSING	AVAIL TOOTH PATTERN	LOAD RATING	
EMBBU1012F or EMBBU1012S	EMBBU-1012*	10	10.5	3.5	6	M4 x 0.7	28°	7	EMBUB-070-(*)	EMBUR-070	EMBBU-1012-H	SF	2585	
	EMBBU-1025*	10	23.5	9.0	6	M4 x 0.7	28°	7	EMBUB-070-(*)	EMBUR-070	EMBBU-1025-H	SF	2585	
EMBBU1316F or EMBBU1316S	EMBBU-1316*	13	14.5	6.5	8.5	M5 x 0.8	42°	10	EMBUB-100-(*)	EMBUR-100	EMBBU-1316-H	EF/SF	4452	
	EMBBU-1325*	13	23.5	9.0	8.5	M5 x 0.8	24°	10	EMBUB-100-(*)	EMBUR-100	EMBBU-1325-H	EF/SF	4452	
EMBBU1722F or EMBBU1722S	EMBBU-1722*	17	18.0	7.0	10.0	M6 x 1.0	42°	13	EMBUB-130-(*)	EMBUR-130	EMBBU-1722-H	EF/SF	6170	

\*MUST SPECIFY STYLE OF BALL BY INDICATING "S" FOR SERRATED, "F" FOR FLAT OR "D" FOR DELRIN



REPLACEABLE PAD STYLE														
ASSEMBLIES							COMPONENTS							
CAD FILE NAME	PART NUMBER	A DIA	B HGT	C	D TAP	E DEGREE SWIVEL	BALL DIA	1* REPLACE PAD DIA	2 O-RING	3 BALL	4 LOCK SCREW	5 HOUSING	LOAD RATING	
EMBBU1722	EMBBU-1722	17	18	7.5	M6 x 1.0	42°	13	10	EMBUR-130	EMBUB-130	EMBUS-130	EMTBBU-1722-H	6170	
EMBBU1924	EMBBU-1924	19	20	8.5	M8 x 1.25	22°	15	12	EMBUR-150	EMBUB-150	EMBUS-150	EMTBBU-1922-H	8688	
EMBBU2428	EMBBU-2428	24	24	9	M10 x 1.5	22°	20	16	EMBUR-160	EMBUB-160	EMBUS-160	EMTBBU-2428-H	13122	
EMBBU3030	EMBBU-3030	30	26	8.5	M12 x 1.75	20°	23	20	EMBUR-200	EMBUB-200	EMBUS-200	EMTBBU-3030-H	21348	
EMBBU3636	EMBBU-3636	36	32	12	M12 x 1.75	20°	28	25	EMBUR-250	EMBUB-250	EMBUS-250	EMTBBU-3636-H	30558	

\*MUST PURCHASE REPLACEABLE PAD SEPARATELY (REFER TO PAGE E-60, E-61 OR E-67)

**CAD Directory**  
Mach-Tool\Met-Gripper

All dimensions are in mm

**Note:** The shortest standard component is given, you may "stretch" the unit to the desired length.



# Metric Grippers “EMFSC” Solid Carbide

EMFSC-ANGLE GRIP					
CAD FILE NAME	PART NUMBER	A	B	C	TOOTH PATTERN
EMFSC1274	EMFSC-127-4	14.3	9.5	M5 x 0.8	4-POINT
EMFSC127410MM	EMFSC-127-4-10MM	10	9.5	M5 x 0.8	4-POINT
EMFSC12710	EMFSC-127-10	14.3	9.5	M5 x 0.8	FINE
EMFSC1304	EMFSC-130-4	14.3	9.5	M5 x 0.8	STRAIGHT
EMFSC130210MM	EMFSC-130-2-10MM	10	9.5	M5 x 0.8	STRAIGHT
EMFSC1455	EMFSC-145-5	14.3	9.5	M5 x 0.8	ANGULAR

# Metric Rest Pads

“EMSRP” & “EMDRP” - STEEL/DELIN - TAPPED						
CAD FILE NAME (see note)	STEEL PART NUMBER	DELIN PART NUMBER	A DIA	B	C TAP	D TAP DEPTH
EMSRP100	EMSRP-100	EMDRP-100	10	10	M5 x 0.8	5.0
	EMSRP-102	EMDRP-102	10	12	M5 x 0.8	6.4
EMSRP120	EMSRP-120	EMDRP-120	12	10	M5 x 0.8	5.0
	EMSRP-122	EMDRP-122	12	12	M5 x 0.8	6.4
EMSRP160	EMSRP-160	EMDRP-160	16	10	M6 x 1.0	5.0
	EMSRP-162	EMDRP-162	16	12	M6 x 1.0	6.4
EMSRP200	EMSRP-200	EMDRP-200	20	10	M6 x 1.0	5.0
	EMSRP-202	EMDRP-202	20	12	M6 x 1.0	6.4
EMSRP250	EMSRP-250	EMDRP-250	25	10	M6 x 1.0	5.0
	EMSRP-252	EMDRP-252	25	12	M6 x 1.0	6.4