



ARBORS AND ADAPTORS

Center drill holder	F02-03
Antivibratory adaptors	F04-08
Mill adaptors	F09-11
Cylindrical modular shank	F12-13

**F**

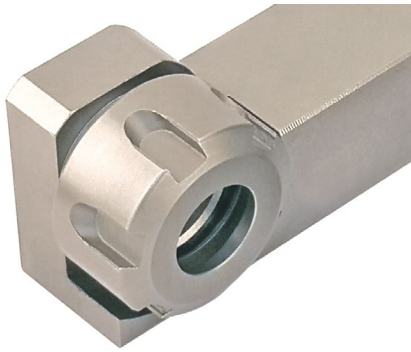


Square Shank Center Drill Holder

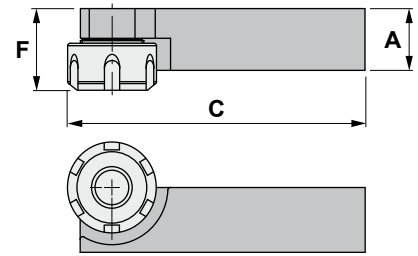
The Center Drill Holder's additional benefits:

- 1 - Is not limited to combined center/spotting drills alone, counter sinks, drills, and boring bars may be used.
- 2 - Frees up drill chucks and collet holders on your tool turret.
- 3 - Allows you to utilize unused turning tool pockets on your turret.
- 4 - Increases tooling arrangement flexibility.
- 5 - Can be used on manual and CNC tool room lathes.








Characteristics:
 Square shank toolholder that will allow you to get into the narrow space between the end of the part and the tail stock of your CNC lathe.




ER20

Reference		A	C	F	
ER20-0.750L	ER20	0.750	4.5	1.125	1.255
ER20-0.750R	ER20	0.750	4.5	1.125	1.255
ER20-1.000L	ER20	1.000	6.0	1.125	1.690
ER20-1.000R	ER20	1.000	6.0	1.125	1.690

Reference	
ER20-0.750L	45320
ER20-0.750R	45320
ER20-1.000L	45320
ER20-1.000R	45320



SET ER20

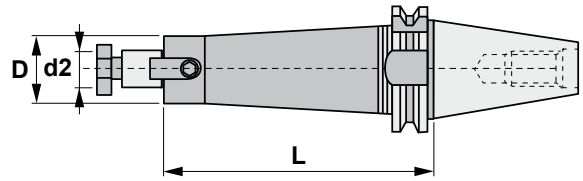
Reference		CAP	n°	Ø
SET-ER20-0.750L	ER20	1/8-1/2	7	1/8 - 3/16 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2
SET-ER20-0.750R	ER20	1/8-1/2	7	1/8 - 3/16 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2
SET-ER20-1.000L	ER20	1/8-1/2	7	1/8 - 3/16 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2
SET-ER20-1.000R	ER20	1/8-1/2	7	1/8 - 3/16 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2








Characteristics:
Antivibratory shell mill adaptor.
Conical.

CAT 50



A14.160

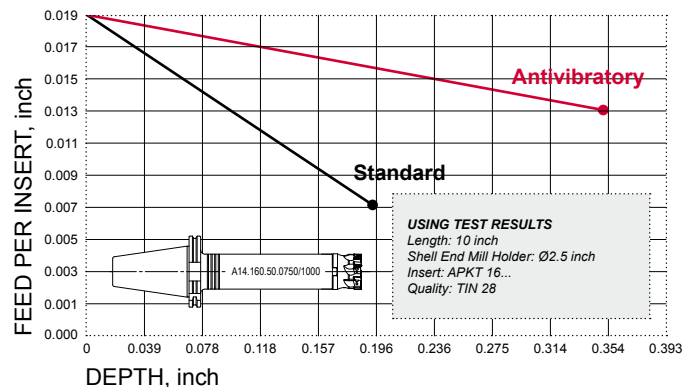
Reference	CAT	D	d2	L	lbs
A14.160.50.0750/1000-C	50	1.750	0.750	10"	14.440
A14.160.50.0750/1200-C	50	1.750	0.750	12"	16.270
A14.160.50.0750/1600-C	50	1.750	0.750	16"	22.985
A14.160.50.0750/2000-C	50	1.750	0.750	20"	25.420

Reference			
A14.160.50.0750/1000-C	10107	90.16.0750	11103
A14.160.50.0750/1200-C	10107	90.16.0750	11103
A14.160.50.0750/1600-C	10107	90.16.0750	11103
A14.160.50.0750/2000-C	10107	90.16.0750	11103

SPECIAL FOR MOULD AND DIE MAKERS

Vibration reduced up to 60% compared to any other conventional shell mill adaptor, as they are manufactured with materials and mechanisms having antivibration properties.

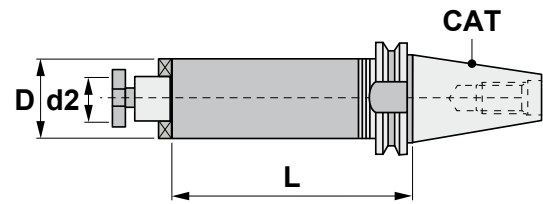
COMPARISON WHEN USING AN ANTIVIBRATORY TOOLHOLDER









Characteristics:
Antivibratory shell mill adaptor.
Cylindrical.

CAT 50

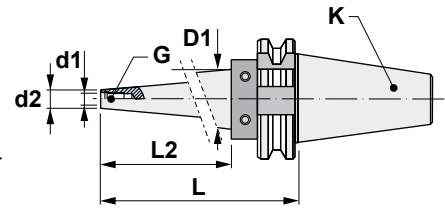


A14.160

Reference	CAT	D	d2	L				
A14.160.40.0750/0600	40	1.900	0.750	6"	10107	86207	11103	5.225
A14.160.40.0750/0800	40	1.900	0.750	8"	10107	86207	11103	6.770
A14.160.40.0750/1000	40	1.900	0.750	10"	10107	86207	11103	9.215
A14.160.40.0750/1200	40	1.900	0.750	12"	10107	86207	11103	10.780
A14.160.40.1000/0600	40	2.400	1.000	6"	10110	86210	11004	6.285
A14.160.40.1000/0800	40	2.400	1.000	8"	10110	86210	11004	8.000
A14.160.40.1000/1000	40	2.400	1.000	10"	10110	86210	11004	9.790
A14.160.40.1000/1200	40	2.400	1.000	12"	10110	86210	11004	11.795
A14.160.50.0750/0600	50	1.900	0.750	6"	10107	86207	11103	13.230
A14.160.50.0750/0800	50	1.900	0.750	8"	10107	86207	11103	13.890
A14.160.50.0750/1000	50	1.900	0.750	10"	10107	86207	11103	14.330
A14.160.50.0750/1200	50	1.900	0.750	12"	10107	86207	11103	15.435
A14.160.50.0750/1600	50	1.900	0.750	16"	10107	86207	11103	16.040
A14.160.50.0750/2000	50	1.900	0.750	20"	10107	86207	11103	18.675
A14.160.50.1000/0600	50	2.400	1.000	6"	10110	86210	11004	13.890
A14.160.50.1000/0800	50	2.400	1.000	8"	10110	86210	11004	15.095
A14.160.50.1000/1000	50	2.400	1.000	10"	10110	86210	11004	15.720
A14.160.50.1000/1600	50	2.400	1.000	16"	10110	86210	11004	15.875
A14.160.50.1000/2000	50	2.400	1.000	20"	10110	86210	11004	17.945
A14.160.50.1250/0600	50	2.900	1.250	6"	10112	86212	11105	15.875
A14.160.50.1250/0800	50	2.900	1.250	8"	10112	86212	11105	16.660
A14.160.50.1250/1200	50	2.900	1.250	12"	10112	86212	11105	23.320
A14.160.50.1250/1600	50	2.900	1.250	16"	10112	86212	11105	28.830
A14.160.50.1250/2000	50	2.900	1.250	20"	10112	86212	11105	35.445



Characteristics:
 Antivibratory end mill adaptors.
 For frontal end mill support screwed shanks.
 Manufactured with materials and mechanisms having antivibration properties.
 Standard and extra long lengths, suitable for moulding and special manufactures.



DIN 69871-A

A11.315

Reference	ISO	L2	D1	L	D	d1	G	d2	lbs
A11.315.40.10/200	40	6.496	1.378	7.875	1.968	0.413	M10	0.708	3.835
A11.315.40.10/250	40	8.465	1.615	9.843	1.968	0.413	M10	0.708	4.762
A11.315.40.10/300	40	10.433	1.811	11.811	1.968	0.413	M10	0.708	6.065
A11.315.40.12/200	40	6.496	1.496	7.875	1.968	0.492	M12	0.827	4.652
WARNING!! Modular Extensions (Pages F07 to F13).									
A11.315.40.12/300	40	10.433	1.929	11.811	1.968	0.492	M12	0.827	6.790
A11.315.40.16/200	40	6.496	1.811	7.875	1.968	0.669	M16	1.142	5.100
A11.315.40.16/250	40	8.465	1.890	9.843	1.968	0.669	M16	1.142	6.040
A11.315.40.16/300	40	10.433	1.969	11.811	1.968	0.669	M16	1.142	7.495
A11.315.50.12/250	50	8.465	1.732	9.843	3.150	0.492	M12	0.827	10.560
A11.315.50.12/300	50	10.433	1.930	11.811	3.150	0.492	M12	0.827	11.290
A11.315.50.12/400	50	14.370	2.362	15.748	3.150	0.492	M12	0.827	15.325
A11.315.50.16/250	50	8.465	2.048	9.843	3.150	0.669	M16	1.142	12.150
A11.315.50.16/300	50	10.433	2.244	11.811	3.150	0.669	M16	1.142	13.540
A11.315.50.16/400	50	14.370	2.677	15.748	3.150	0.669	M16	1.142	16.715
A11.315.50.16/500	50	18.307	3.070	19.685	3.150	0.669	M16	1.142	25.750

A11.315IK

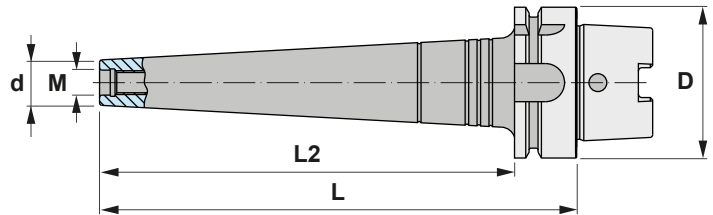
Reference	ISO	L2	D1	L	D	d1	G	d2	lbs
A11.315.40.10/200IK	40	6.496	1.380	7.875	1.968	0.413	M10	0.708	3.835
A11.315.40.10/250IK	40	8.465	1.615	9.843	1.968	0.413	M10	0.708	4.762
A11.315.40.12/200IK	40	6.496	1.496	7.875	1.968	0.492	M12	0.827	4.652
A11.315.40.12/250IK	40	8.465	1.732	9.843	1.968	0.492	M12	0.827	5.315
A11.315.40.16/250IK	40	8.465	1.890	9.843	1.968	0.669	M16	1.142	6.040
A11.315.50.12/300IK	50	10.433	1.930	11.811	3.150	0.492	M12	0.827	11.290
A11.315.50.16/300IK	50	10.433	2.244	11.811	3.150	0.669	M16	1.142	13.540

Modular milling cutters. G22, G26, G41, G47 and G66





Characteristics:
 Antivibratory end mill adaptors.
 HSK DIN 69893-1
 For frontal end mill support screwed shanks.
 Manufactured with materials and mechanisms having antivibration properties.
 Standard and extra long lengths, suitable for moulding and special manufactures.
 With internal coolant.



A16.315IK

Reference	HSK	L	d	M	L2	D	lbs
A16.315.063.10/200IK	63	7.875	0.709	M10	6.850	2.480	2.845
A16.315.063.10/250IK	63	9.843	0.709	M10	8.819	2.480	3.310
A16.315.063.12/200IK	63	7.875	0.827	M12	6.850	2.480	2.955
A16.315.063.12/250IK	63	9.843	0.827	M12	8.819	2.480	3.420
A16.315.063.16/250IK	63	9.843	1.142	M16	8.819	2.480	4.695
A16.315.100.12/300IK	100	11.811	0.827	M12	10.670	3.937	7.895
A16.315.100.16/300IK	100	11.811	1.142	M16	10.670	3.937	9.700



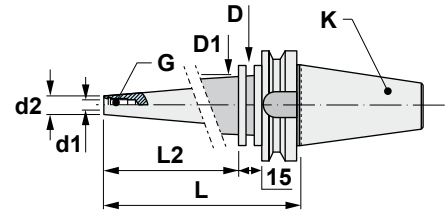
F

Modular milling cutters. G22, G26, G41, G47 and G66





Characteristics:
 Antivibratory end mill adaptors.
 JIS B 6339-BT
 For frontal end mill support screwed shanks.
 Manufactured with materials and mechanisms having antivibration properties. Standard and extra long lengths, suitable for moulding and special manufactures.



A20.315

Reference	BT	L2	D1	L	D	d1	G	d2	
A20.315.40.10/200	40	6.220	1.378	7.874	1.968	0.413	M10	0.709	4.345
A20.315.40.10/250	40	8.189	1.575	9.842	1.968	0.413	M10	0.709	4.985
A20.315.40.10/300	40	10.157	1.771	11.811	1.968	0.413	M10	0.709	6.220
A20.315.40.12/200	40	6.220	1.496	7.874	1.968	0.492	M12	0.827	4.410
A20.315.40.12/250	40	8.189	1.692	9.842	1.968	0.492	M12	0.827	5.490
A20.315.40.12/300	40	10.157	1.732	11.811	1.968	0.492	M12	0.827	6.900
A20.315.40.16/200	40	6.220	1.692	7.874	1.968	0.669	M16	1.142	5.490
A20.315.40.16/250	40	8.189	1.732	9.842	1.968	0.669	M16	1.142	6.195
A20.315.40.16/300	40	10.157	1.850	11.811	1.968	0.669	M16	1.142	7.605
A20.315.50.12/250	50	7.755	1.653	9.842	3.150	0.492	M12	0.827	11.575
A20.315.50.12/300	50	9.724	1.850	11.811	3.150	0.492	M12	0.827	13.030
A20.315.50.12/400	50	13.661	2.244	15.748	3.150	0.492	M12	0.827	16.715
A20.315.50.16/300	50	9.724	2.165	11.811	3.150	0.669	M16	1.142	14.990
A20.315.50.16/400	50	13.661	2.559	15.748	3.150	0.669	M16	1.142	19.845
A20.315.50.16/500	50	17.598	2.992	19.685	3.150	0.669	M16	1.142	26.455



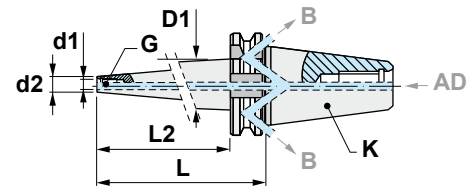
Modular milling cutters. G22, G26, G41, G47 and G66






Characteristics:
Mill adaptors.
For frontal end mill support
screwed shanks.

DIN 69871-A



13.315

Reference	DIN	L	d1	G	d2	L2	D1	
13.315.40.10/045	40	1.772	0.413	M10	0.708	0.984	0.787	2.005
13.315.40.10/070	40	2.755	0.413	M10	0.708	1.968	0.905	2.115
13.315.40.10/120	40	4.724	0.413	M10	0.708	3.937	1.141	2.535
13.315.40.12/045	40	1.772	0.492	M12	0.826	0.984	0.944	2.030
13.315.40.12/070	40	2.755	0.492	M12	0.826	1.968	1.023	2.160
13.315.40.12/120	40	4.724	0.492	M12	0.826	3.937	1.259	2.780
13.315.40.16/045	40	1.772	0.669	M16	1.141	0.984	1.259	2.050
13.315.40.16/070	40	2.755	0.669	M16	1.141	1.968	1.377	2.295
13.315.40.16/120	40	4.724	0.669	M16	1.141	3.937	1.574	3.375
13.315.50.12/070	50	2.755	0.492	M12	0.826	1.968	1.023	6.195
13.315.50.12/120	50	4.724	0.492	M12	0.826	3.937	1.259	6.860
13.315.50.12/170	50	6.693	0.492	M12	0.826	5.905	1.456	7,605
13.315.50.16/070	50	2.755	0.669	M16	1.141	1.968	1.377	6.415
13.315.50.16/120	50	4.724	0.669	M16	1.141	3.937	1.574	7.430
13.315.50.16/170	50	6.693	0.669	M16	1.141	5.905	1.771	8.620



Modular milling cutters.  G22, G26, G41, G47 and G66

122006 90°



123006 90°



16_906



55_506

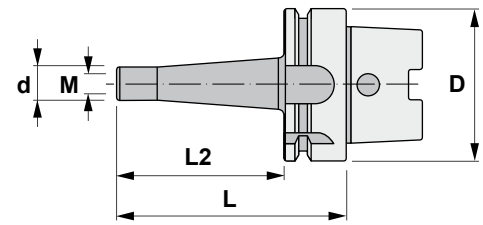


87_06






Characteristics:
Milling cutter arbors for screw-on
type milling cutters.
DIN 69893-1 / HSK Form A.



16.315

Reference	HSK	L	d	M	L2	D	
16.315.063.10/050	63	2.992	0.708	10	1.968	2.480	1.675
16.315.063.10/100	63	4.960	0.708	10	3.937	2.480	2.250
16.315.063.12/050	63	2.992	0.826	12	1.968	2.480	1.720
16.315.063.12/100	63	4.960	0.826	12	3.937	2.480	2.360
16.315.063.16/050	63	2.992	1.141	16	1.968	2.480	1.985
16.315.063.16/100	63	4.960	1.141	16	3.937	2.480	2.670
16.315.100.10/100	100	5.078	0.708	10	3.937	3.937	5.140
16.315.100.10/150	100	7.047	0.708	10	5.905	3.937	5.535
16.315.100.12/100	100	5.078	0.826	12	3.937	3.937	5.205
16.315.100.12/150	100	7.047	0.826	12	5.905	3.937	5.645
16.315.100.16/100	100	5.078	1.141	16	3.937	3.937	5.380
16.315.100.16/150	100	7.047	1.141	16	5.905	3.937	5.975

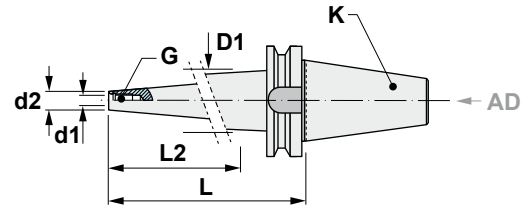


Modular milling cutters.  G22, G26, G41, G47 and G66






Characteristics:
 Mill adaptors.
 JIS B 6339-BT
 For frontal end mill support
 screwed shanks.
 Similar to DIN 69871 - Form AD+B



23.315

Reference	BT	L	d1	G	d2	L2	D1	
23.315.40.10/055	40	2.165	0.413	M10	0.708	0.984	0.787	2.295
23.315.40.10/080	40	3.150	0.413	M10	0.708	1.968	0.905	2.450
23.315.40.10/130	40	5.118	0.413	M10	0.708	3.937	1.141	2.980
23.315.40.12/055	40	2.165	0.492	M12	0.826	0.984	0.944	2.425
23.315.40.12/080	40	3.150	0.492	M12	0.826	1.968	1.023	2.515
23.315.40.12/130	40	5.118	0.492	M12	0.826	3.937	1.259	3.155
23.315.40.16/055	40	2.165	0.669	M16	1.141	0.984	1.259	2.425
23.315.40.16/080	40	3.150	0.669	M16	1.141	1.968	1.377	2.645
23.315.40.16/130	40	5.118	0.669	M16	1.141	3.937	1.574	3.770
23.315.50.12/090	50	3.543	0.492	M12	0.826	1.968	1.023	9.040
23.315.50.12/140	50	5.511	0.492	M12	0.826	3.937	1.259	9.150
23.315.50.12/190	50	7.480	0.492	M12	0.826	5.905	1.456	9.880
23.315.50.16/090	50	3.543	0.669	M16	1.141	1.968	1.377	8.710
23.315.50.16/140	50	5.511	0.669	M16	1.141	3.937	1.574	9.615
23.315.50.16/190	50	7.480	0.669	M16	1.141	5.905	1.771	10.915

Modular milling cutters.  G22, G26, G41, G47 and G66

122006 90°



123006 90°



16_906



55_506



87_06

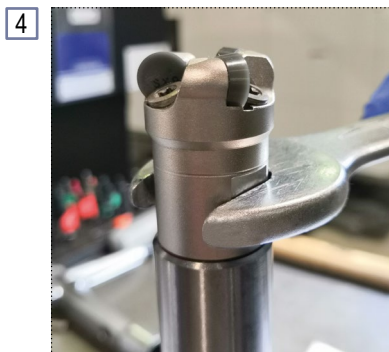


Instruction Manual



Step 1 2 : Clean

Please be sure to remove dirt and debris on all adjoining surfaces before assembling. (air preferred).



Step 3 4 : Assembly

Mount the modular head onto the shank by hand until it fits then use the supplied wrench to tighten.



Step 5 6 : Final Check

Re-check that there is no gap.

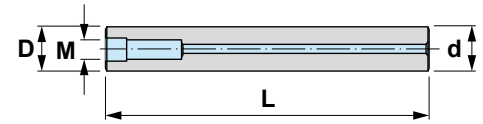


Thread M	Clamping Torque (Nm)
M6	6.5
M8	10.0
M10	12.0
M12	15.0
M16	20.0

i Please tighten the screw with designated torque, too much torque will damage the screw.



Characteristics:
Steel cylindric shanks for modular milling heads.
HD= Antivibration shank.



06.0 ⁰/₂

Reference	d	L	M	D	
06.0750.00.10	0.750	5.000	M10	0.709	0.660
06.1000.00.12	1.000	5.000	M12	0.827	0.990
06.0500.00.06HD	0.500	5.000	M6	0.394	0.506
06.0625.00.08HD	0.625	5.000	M8	0.551	0.891
06.0500.01.06HD	0.500	6.000	M6	0.394	0.583
06.0625.01.08HD	0.625	6.000	M8	0.551	1.034
06.0750.01.10HD	0.750	6.000	M10	0.709	1.661
06.1000.01.12HD	1.000	6.000	M12	0.827	2.431
06.0750.02.10HD	0.750	8.000	M10	0.709	2.211
06.1000.02.12HD	1.000	8.000	M12	0.827	3.212



Modular milling cutters. G22, G26, G41, G47 and G66



