

# Cylindrical end mills AX (AX-NV3)

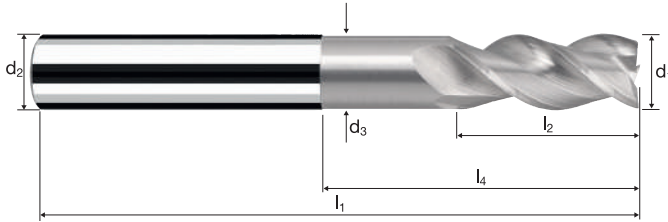
Smooth-edged, medium length version with neck



**HM**  $\lambda$  40°  
**MG10**  $\gamma$  20°

90°

Vario



**Roughing**

**Finishing**

**Rm** < 850

**Al** Aluminium > 99%

**Al** Aluminium Alloy

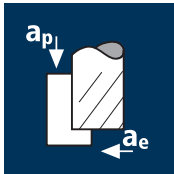
**Al** Aluminium Cast

**Cu** Copper

**Plastic** Thermoplast

										CELERO	
Example: Order-N°.										15657	C15657
										15557	C15557
Ø Code	d <sub>1</sub> e8	d <sub>2</sub> h6	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	α	z		
180	3.00	6.00	2.80	63	8.00	20.00	26.63	3.5°	3	●	●
220	4.00	6.00	3.70	63	11.00	22.00	26.95	2.5°	3	●	●
260	5.00	6.00	4.60	63	13.00	24.00	27.27	1.5°	3	●	●
300	6.00	6.00	5.50	63	13.00	25.34	26.00	0.0°	3	●	●
391	8.00	8.00	7.40	72	19.00	34.29	35.00	0.0°	3	●	●
450	10.00	10.00	9.20	84	22.00	42.20	43.00	0.0°	3	●	●
501	12.00	12.00	11.00	97	26.00	50.13	51.00	0.0°	3	●	●
610	16.00	16.00	15.00	108	32.00	58.13	59.00	0.0°	3	●	●
682	20.00	20.00	19.00	122	38.00	70.13	71.00	0.0°	3	●	●

## Application



## Material

Wrought aluminium  
Construction aluminium



d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>s</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]	Q [cm <sup>3</sup> /min]
3.00	3	396	0.045	4.500	0.900	42015	5670	23.0
4.00	3	528	0.060	6.000	1.200	42015	7565	54.5
5.00	3	550	0.075	7.500	1.500	35015	7880	88.6
6.00	3	550	0.100	9.000	1.800	29180	8755	141.8
8.00	3	550	0.120	12.000	2.400	21885	7880	226.9
10.00	3	550	0.150	15.000	3.000	17505	7880	354.5
12.00	3	550	0.180	18.000	3.600	14590	7880	510.5
16.00	3	550	0.190	24.000	4.800	10940	6235	718.5
20.00	3	550	0.225	30.000	6.000	8755	5910	1063.6

Unalloyed copper



3.00	3	396	0.035	4.500	0.900	42015	4410	17.9
4.00	3	400	0.050	6.000	1.200	31830	4775	34.4
5.00	3	400	0.060	7.500	1.500	25465	4585	51.6
6.00	3	400	0.080	9.000	1.800	21220	5095	82.5
8.00	3	400	0.095	12.000	2.400	15915	4535	130.6
10.00	3	400	0.120	15.000	3.000	12730	4585	206.3
12.00	3	400	0.145	18.000	3.600	10610	4615	299.1
16.00	3	400	0.150	24.000	4.800	7960	3580	412.5
20.00	3	400	0.180	30.000	6.000	6365	3440	618.8

Thermoplastics



3.00	3	396	0.045	4.500	0.900	42015	5670	23.0
4.00	3	528	0.060	6.000	1.200	42015	7565	54.5
5.00	3	660	0.075	7.500	1.500	42015	9455	106.4
6.00	3	792	0.100	9.000	1.800	42015	12605	204.2
8.00	3	1000	0.120	12.000	2.400	39790	14325	412.5
10.00	3	1000	0.150	15.000	3.000	31830	14325	644.6
12.00	3	1000	0.180	18.000	3.600	26525	14325	928.2
16.00	3	1000	0.190	24.000	4.800	19895	11340	1306.3
20.00	3	1000	0.225	30.000	6.000	15915	10745	1933.7

Cast aluminium



3.00	3	396	0.045	4.500	0.900	42015	5670	23.0
4.00	3	440	0.060	6.000	1.200	35015	6305	45.4
5.00	3	440	0.075	7.500	1.500	28010	6305	70.9
6.00	3	440	0.100	9.000	1.800	23345	7005	113.4
8.00	3	440	0.120	12.000	2.400	17505	6305	181.5
10.00	3	440	0.150	15.000	3.000	14005	6305	283.6
12.00	3	440	0.180	18.000	3.600	11670	6305	408.4
16.00	3	440	0.190	24.000	4.800	8755	4990	574.8
20.00	3	440	0.225	30.000	6.000	7005	4725	850.8

Wrought aluminium  
Construction aluminium



3.00	3	396	0.030	1.350	3.000	42015	3780	15.3
4.00	3	450	0.040	1.800	4.000	35810	4295	30.9
5.00	3	450	0.055	2.250	5.000	28650	4725	53.2
6.00	3	450	0.070	2.700	6.000	23875	5015	81.2
8.00	3	450	0.085	3.600	8.000	17905	4565	131.5
10.00	3	450	0.105	4.500	10.000	14325	4510	203.0
12.00	3	450	0.125	5.400	12.000	11935	4475	290.1
16.00	3	450	0.135	7.200	16.000	8950	3625	417.7
20.00	3	450	0.160	9.000	20.000	7160	3440	618.8

Unalloyed copper



3.00	3	350	0.025	1.350	3.000	37135	2785	11.3
4.00	3	350	0.030	1.800	4.000	27850	2505	18.0
5.00	3	350	0.045	2.250	5.000	22280	3010	33.8
6.00	3	350	0.055	2.700	6.000	18570	3065	49.6
8.00	3	350	0.070	3.600	8.000	13925	2925	84.2
10.00	3	350	0.085	4.500	10.000	11140	2840	127.8
12.00	3	350	0.100	5.400	12.000	9285	2785	180.5
16.00	3	350	0.110	7.200	16.000	6965	2300	264.7
20.00	3	350	0.130	9.000	20.000	5570	2170	391.0

Thermoplastics



3.00	3	396	0.030	1.350	3.000	42015	3780	15.3
4.00	3	528	0.040	1.800	4.000	42015	5040	36.3
5.00	3	660	0.055	2.250	5.000	42015	6935	78.0
6.00	3	792	0.070	2.700	6.000	42015	8825	142.9
8.00	3	800	0.085	3.600	8.000	31830	8115	233.8
10.00	3	800	0.105	4.500	10.000	25465	8020	361.0
12.00	3	800	0.125	5.400	12.000	21220	7960	515.7
16.00	3	800	0.135	7.200	16.000	15915	6445	742.6
20.00	3	800	0.160	9.000	20.000	12730	6110	1100.1

Cast aluminium



3.00	3	360	0.030	1.350	3.000	38195	3440	13.9
4.00	3	360	0.040	1.800	4.000	28650	3440	24.8
5.00	3	360	0.055	2.250	5.000	22920	3780	42.5
6.00	3	360	0.070	2.700	6.000	19100	4010	65.0
8.00	3	360	0.085	3.600	8.000	14325	3655	105.2
10.00	3	360	0.105	4.500	10.000	11460	3610	162.4
12.00	3	360	0.125	5.400	12.000	9550	3580	232.0
16.00	3	360	0.135	7.200	16.000	7160	2900	334.1
20.00	3	360	0.160	9.000	20.000	5730	2750	495.0