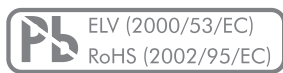


MAIN FEATURES

- > Precise quality knobs
- > Secure collet mounting
- > Wide variety
- > Lots of accessories
- > Customized colors on request available

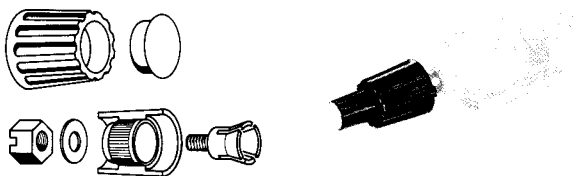


STANDARD PRODUCT VARIETY

- 9 to 45 mm knob size
- Shaft diameter: 2 mm to 1/4"
- Glossy or matt surface
- Black or gray knob color
- Various cap colors
- With or without line
- Various accessories

POSSIBLE CUSTOMIZATIONS

- Color
- Shaft diameter



CLASSIC COLLET KNOBS OVERVIEW

Knob size vs. shaft diameter, wing and crank style

SHAFT Ø	KNOBS SIZE							
	Ø 9 mm	Ø 10 mm	Ø 14.5 mm	Ø 21 mm	Ø 28 mm	Ø 36 mm	Ø 45 mm	
2 mm	x	x						
3 mm	x	x	x					
4 mm		x	x	x				
6 mm			x	x	x	x	x	
1/8"	x	x	x					
1/4"			x	x	x	x	x	
Wing knob		x	x	x	x			
Crank knob							x	
SEE PAGE	113	114	115	116	117	118	119	



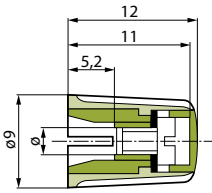
INTRODUCTION

Elma classic collet knobs are available in 7 different diameters. Knobs with diameters of 10 to 28 mm are stocked in two versions; with and without wings. Both versions are available with a line as an option. The knobs are fixed onto the shafts by means of the proven collet tightening method.

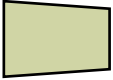
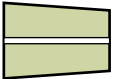
The tightening elements for knobs with diameters of 10 mm and 14.5 mm are hidden from view by nut covers. For the larger knob types, concealment of these elements is ensured by the special Elma design.

Furthermore, two different switches can be operated by inserting one knob on top of the other (concentric style). Knobs with diameters of 14.5 to 36 mm are designed to enable the next smallest knob to fit onto it. When dual knobs are used, the larger of the two must be equipped with a collet with through-hole.

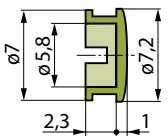
KNOB SIZE: Ø 9 mm





KNOB

MARKING	Ø	GRAY		BLACK	
		MATT	GLOSSY	MATT	GLOSSY
Without line 	2	020-1015	020-1010	020-1025	020-1020
	3	020-1115	020-1110	020-1125	020-1120
	1/8"	020-1215	020-1210	020-1225	020-1220
With line 	2	020-1015	021-1010	020-1025	020-1020
	3	020-1115	021-1010	021-1125	020-1120
	1/8"	020-1215	021-1210	021-1225	020-1220

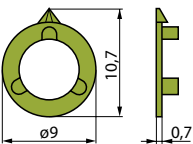
Packaging size: 100 pcs.



CAP

MARKING	SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
Without line 	Matt	040-1015	040-1025	040-1035	040-1045	040-1055	040-1065
	Glossy	040-1010	040-1020	040-1030	040-1040	040-1050	040-1060
With line 	Matt	040-1615	040-1625	040-1635	040-1645	040-1655	040-1665
	Glossy	040-1610	040-1620	040-1630	040-1640	040-1650	040-1660

Packaging size: 100 pcs.

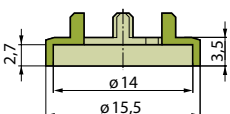
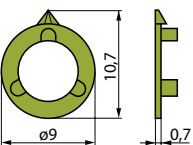
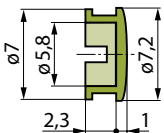
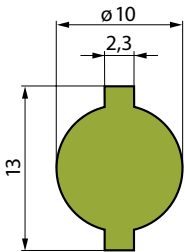
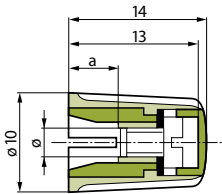


POINTER

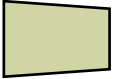
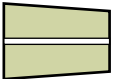
SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
Matt	041-1015	041-1025	041-1035	041-1045	041-1055	041-1065
Glossy	041-1010	041-1020	041-1030	041-1040	041-1050	041-1060

Packaging size: 100 pcs.

KNOB SIZE: Ø 10mm

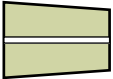


KNOB

MARKING	α	Ø	GRAY		BLACK	
			MATT	GLOSSY	MATT	GLOSSY
Without line 	4.5	2	020-2015	020-2010	020-2025	020-2020
	5.2	3	020-2115	020-2110	020-2125	020-2120
	5.2	1/8"	020-2215	020-2210	020-2225	020-2220
	5.2	4	020-2315	020-2310	020-2325	020-2320
With line 	4.5	2	021-2015	020-2010	020-2025	020-2020
	5.2	3	021-2115	020-2110	021-2125	020-2120
	5.2	1/8"	021-2215	021-2210	021-2225	021-2220
	5.2	4	021-2315	021-2310	021-2325	021-2320



Packaging size: 100 pcs.

WING KNOB

MARKING	α	Ø	GRAY		BLACK	
			MATT	GLOSSY	MATT	GLOSSY
With line 	4.5	2	023-2015	023-2010	023-2025	023-2020
	5.2	3	023-2115	023-2110	023-2125	023-2120
	5.2	1/8"	023-2215	023-2210	023-2225	023-2220
	5.2	4	023-2315	023-2310	023-2325	023-2320

Packaging size: 100 pcs.

CAP

MARKING	SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
		Without line 	Matt	040-1015	040-1025	040-1035	040-1045
	Glossy	040-1010	040-1020	040-1030	040-1040	040-1050	040-1060
With line 	Matt	040-1615	040-1625	040-1635	040-1645	040-1655	040-1665
	Glossy	040-1610	040-1620	040-1630	040-1640	040-1650	040-1660



Packaging size: 100 pcs.

POINTER

SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
Matt	041-2015	041-2025	041-2035	041-2045	041-2055	041-2065
Glossy	041-2010	041-2020	041-2030	041-2040	041-2050	041-2060

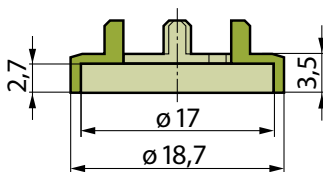
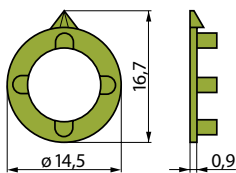
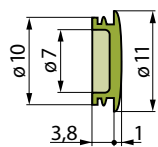
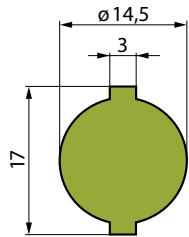
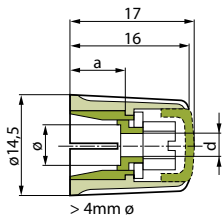
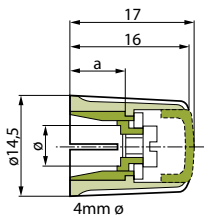
Packaging size: 100 pcs.

NUT COVER

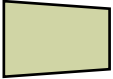
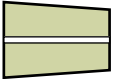
MARKING	SURFACE	GRAY	BLACK
		Without line 	Matt
	Glossy	044-2010	044-2020
With line 	Matt	044-2115	044-2125
	Glossy	044-2110	044-2120

Packaging size: 100 pcs.

KNOB SIZE: Ø 14.5 mm

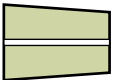


KNOB

MARKING	a	d	Ø	GRAY		BLACK	
				MATT	GLOSSY	MATT	GLOSSY
Without line 	5.2	-	3	020-3115	020-3110	020-3125	020-3120
	5.2	-	1/8"	020-3215	020-3210	020-3225	020-3220
	5.2	-	4	020-3315	020-3310	020-3325	020-3320
	7.0	3.2	6	020-3415	020-3410	020-3425	020-3420
	7.0	3.2	1/4"	020-3515	020-3510	020-3525	020-3520
With line 	5.2	-	3	021-3115	021-3110	021-3125	021-3120
	5.2	-	1/8"	021-3215	021-3210	021-3225	021-3220
	5.2	-	4	021-3315	021-3310	021-3325	021-3320
	7.0	3.2	6	021-3415	021-3410	021-3425	021-3420
	7.0	3.2	1/4"	021-3515	021-3510	021-3525	021-3520


Packaging size: 100 pcs.

WING KNOB

MARKING	a	d	Ø	GRAY		BLACK	
				MATT	GLOSSY	MATT	GLOSSY
With line 	5.2	-	3	023-3115	023-3110	023-3125	023-3120
	5.2	-	1/8"	023-3215	023-3210	023-3225	023-3220
	5.2	-	4	023-3315	023-3310	023-3325	023-3320
	7.0	3.2	6	023-3415	023-3410	023-3425	023-3420
	7.0	3.2	1/4"	023-3515	023-3510	023-3525	023-3520

Packaging size: 100 pcs.

CAP

MARKING	SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
	Matt	040-3015	040-3025	040-3035	040-3045	040-3055	040-3065
	Glossy	040-3010	040-3020	040-3030	040-3040	040-3050	040-3060
	Matt	040-3615	040-3625	040-3635	040-3645	040-3655	040-3665
	Glossy	040-3610	040-3620	040-3630	040-3640	040-3650	040-3660




Packaging size: 100 pcs.

POINTER

SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
Matt	041-3015	041-3025	041-3035	041-3045	041-3055	041-3065
Glossy	041-3010	041-3025	041-3030	041-3040	041-3050	041-3060

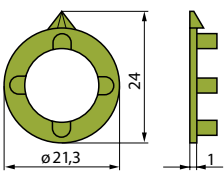
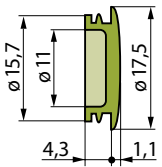
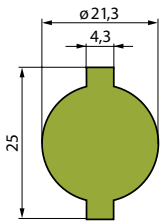
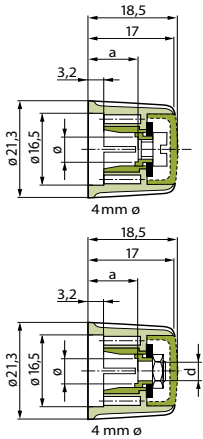
Packaging size: 100 pcs.

NUT COVER

MARKING	SURFACE	GRAY	BLACK	RED
Without line 	Matt	044-3015	044-3025	044-3035
	Glossy	044-3010	044-3020	044-3030
With line 	Matt	044-3115	044-3125	044-3135
	Glossy	044-3110	044-3120	044-3130
Only for wing knob 	Matt	044-3215	044-3225	044-3235
	Glossy	044-3210	044-3220	044-3230

Packaging size: 100 pcs.

KNOB SIZE: Ø 21 mm



KNOB

MARKING	a	d	Ø	GRAY		BLACK	
				MATT	GLOSSY	MATT	GLOSSY
Without line	8.3	-	4	020-4315	020-4310	020-4325	020-4320
	10	4.05	6	020-4415	020-4410	020-4425	020-4420
	10	3.2	1/4"	020-4515	020-4510	020-4525	020-4520
With line	8.3	-	4	021-4315	021-4310	021-4325	021-4320
	10	4.05	6	021-4415	021-4410	021-4425	021-4420
	10	3.2	1/4"	021-4515	021-4510	021-4525	021-4520

Packaging size: 100 pcs.

WING KNOB

MARKING	a	d	Ø	GRAY		BLACK	
				MATT	GLOSSY	MATT	GLOSSY
With line	8.3	-	4	023-4315	023-4310	023-4325	023-4320
	10	4.05	6	023-4415	023-4410	023-4425	023-4420
	10	3.2	1/4"	023-4515	023-4510	023-4525	023-4520

Packaging size: 100 pcs.

CAP

MARKING	SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
		Without line	Matt	040-4015	040-4025	040-4035	040-4045
	Glossy	040-4010	040-4020	040-4030	040-4040	040-4050	040-4060
With line	Matt	040-4615	040-4625	040-4635	040-4645	040-4655	040-4665
	Glossy	040-4610	040-4620	040-4630	040-4640	040-4650	040-4660

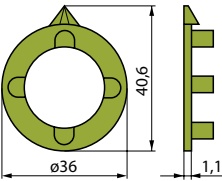
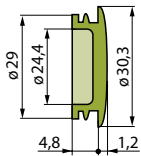
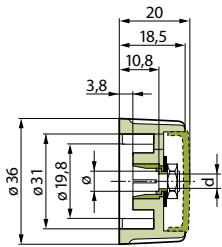
Packaging size: 100 pcs.

POINTER


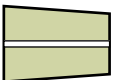
SURFACE	GRAY	BLACK	RED	BLUE	YELLOW	GREEN
Matt	041-4015	041-4025	041-4035	041-4045	041-4055	041-4065
Glossy	041-4010	041-4020	041-4030	041-4040	041-4050	041-4060

Packaging size: 100 pcs.

KNOB SIZE: Ø 36mm



KNOB

MARKING	d	Ø	GRAY		BLACK	
			MATT	GLOSSY	MATT	GLOSSY
Without line 	4.05	6	020-6415	020-6410	020-6425	020-6420
	3.2	1/4"	020-6515	020-6510	020-6525	020-6520
With line 	4.05	6	021-6415	021-6410	021-6425	021-6420
	3.2	1/4"	021-6515	021-6510	021-6525	021-6520

Packaging size: 100 pcs.

CAP

MARKING	SURFACE	GRAY	BLACK	RED
		Without line 	Matt	040-6015
	Glossy	040-6010	040-6020	040-6030
With line 	Matt	040-6615	040-6625	040-6635
	Glossy	040-6610	040-6620	040-6630

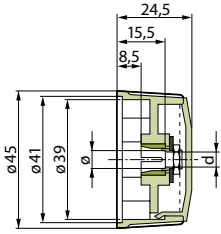
Packaging size: 100 pcs.

POINTER



SURFACE	GRAY	BLACK	RED
Matt	041-6015	041-6025	041-6035
Glossy	041-6010	041-6020	041-6030

Packaging size: 100 pcs.

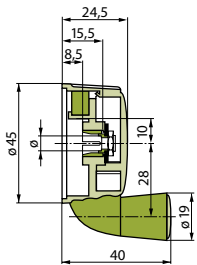
KNOB SIZE: Ø 45 mm



KNOB

MARKING	d	Ø	GRAY	BLACK
Without line	4.05	6	020-7410	020-7420
	3.2	1/4"	020-7510	020-7520
With line	4.05	6	020-7410	020-7420
	3.2	1/4"	020-7510	020-7520

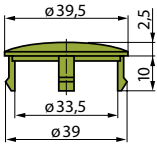
Packaging size: 50 pcs.



CRANK KNOB

MARKING	d	Ø	GRAY	BLACK
	4.05	6	020-8410	020-8420

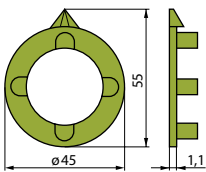
Packaging size: 40 pcs.



CAP

MARKING	SURFACE	GRAY	BLACK	RED
Without line	Glossy	040-8010	040-8020	040-8030
				

Packaging size: 100 pcs.

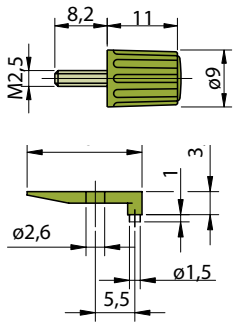


POINTER

SURFACE	GRAY	BLACK	RED
Glossy	041-7110	041-7120	041-7130

Packaging size: 100 pcs.

KNOB PROGRAM ADDITIONS



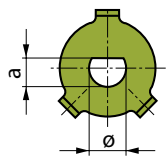
LOCKING SET

Locks arrow dial or figure dial Ø 20-63 mm on front panel (protection against unintentional turning).

LOCKING SET, CONSISTING OF	GRAY	BLACK	Clear Transp.	Clear Transp. with Line
Screw with knob	026-2010	026-2020	-	-
Locking piece	-	-	026-2100	026-2200

ANTI-SLIP BRACKET

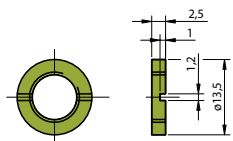
D-shape prevents slipping on shaft and incorrect knob mounting. For knobs Ø 21, 28, 36 mm.



ANTI-SLIP BRACKET CORRESPONDING SHAFT WITH FLAT	Ø	a	L	ORDER NUMBER
	4 mm	3.50 mm	7 mm	048-2000
	6 mm	4.60 mm	9 mm	048-2300
	6 mm	5.00 mm	9 mm	048-2100
	1/4"	5.08 mm	9 mm	048-2200

SLOTTED NUT (BRASS)

Starting with the knobs Ø 14.5 mm, stators can be mounted directly underneath the slotted nut of the central mounting bushing of the switch.

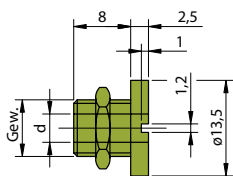


THREAD	M6 X 0.75	M7 X 0.75	M8 X 0.75	M10 X 0.75	3/8" - 32
Slotted nut	046-1000	046-1500	046-2000	046-3000	046-4000

MOUNTING AID

Stators for knobs Ø 14.5 mm or larger can be mounted directly to the bushing on the front panel in cases where the switch does not have a central mounting.

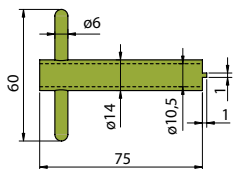
Mounting aid with through-hole Ø 6 mm	047-3000
---------------------------------------	----------



MOUNTING TOOL

Tool for tightening of our slotted nuts and threaded bushings.

Mounting aid with through-hole Ø 6 mm	048-1000
---------------------------------------	----------



MATERIAL DATA

METAL PARTS

Brass is used for the collets, sleeves and nuts. The surface of screw and washer is protected against corrosion.

KNOBS AND ACCESSORIES

With the exception of the transparent figure dials all mouldings of the collet knob range are manufactured of polyamide. This material is resistant to amyl alcohol, petroleum, freon, caustic potash, 50% caustic soda, at temperatures of +20°C. The transparent dials are made of PMMA and are also resistant to the chemicals mentioned above.

Operating temperature range: -40 to +70°C

Flammability: UL94-HB

SWITCHING MODES

KNOB Ø	COLLET Ø									
	2 mm		3 mm, 1/8"		4 mm		6 mm		1/4"	
	a	b	a	b	a	b	a	b	a	b
	Ncm	Ncm	Ncm	Ncm	Ncm	Ncm	Ncm	Ncm	Ncm	Ncm
9 mm	50	25	50	25						
10 mm			80	40	80	60				
14.5 mm			100	50	100	80	120	140	120	140
21 to 45 mm					100	80	160	140	120	140

a = Max. admissible fastening torque for screws resp. nuts.

b = Operating torque for stainless steel shafts with a tolerance of h8 for max. tightening torque.

TYPE KEY

02	-	-	-	-	-	-	-
-----------	---	---	---	---	---	---	---

STYLE, LINE

- 0** Knob without line
- 1** Knob with line
- 2** Wing knob without line
- 3** Wing knob with line

SURFACE

- 0** Glossy
- 5** Matt

COLOR

- 1** Gray
- 2** Black

KNOB SIZE	COLLET Ø							COLLET WITH THROUGH DRILLING Ø			
	2	3	4	5	6	1/8"	1/4"	4	6	1/8"	1/4"
9 mm	10	11				12					
10 mm	20	20	23			22					
14.5 mm	30	31	33	36	34	32	35			3G	
21 mm	40	41	43	46	44	42	45	4E	4F	4G	4H
28 mm		51	53	56	54		55	5E	5F	5G	5H
36 mm			63	66	64		65	6E	6F		6H
45 mm					74		75		7F		7H

Explanation:

	Standard version
	Optional
	Not possible