Sanitisation against microbes, bacteria and fungi

STANDARD MACHINE ELEMENTS WORLDWIDE

elesa®

Constant prevention and self-sanitisation

Components in a special technopolymer with silver ion additives on an inorganic base (without active pharmaceutical ingredients, antibiotics or pesticides) which prevents the proliferation of unhealthy organisms such as microbes, bacteria and fungi by penetrating the surface of the cells and attacking their DNA.

Elesa has recently enlarged its SAN-Antimicrobial line with the aim to offer a solution to a problem of great importance that countries around the world are facing: antibiotics resistance. This phenomenon occurs when microorganisms resist to antimicrobial drug activities, thus exposing humans to the risk of contracting infections that are difficult to control and eradicate.

The controlled release mechanism of the silver ions allows the inalterability of the antimicrobial characteristics prolonged over time, even after numerous washing cycles, to guarantee the antimicrobial characteristic of SAN-Antimicrobial line.

SAN-Antimicrobial components are destined for medical and hospital equipment, rehab and disability aids, machines in pharmaceutical sector, urban and public fittings.

Laboratory tests

Laboratory tests show that 98,9% of bacteria load is eliminated over the course of 24 hours (ISO 22196: 2011).
All components of SAN-Antimicrobial line are provided with the Statement of Compliance "Antimicrobial Properties of Materials".
Tests were carried out by CSI S.p.A., an accredited and recognised laboratory by ACCREDIA (n.0006), being the National Accreditation Body.
The laboratory complies with the requirements of UNI CEI EN ISO / EC 17025.
Certificate identification: C0144 \ FPM \ FOOD \ 19_1_2.

Strains used

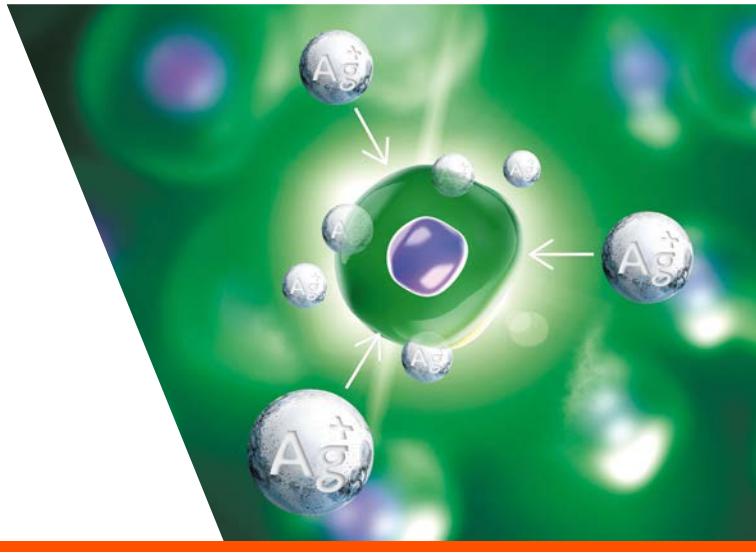
- Staphylococcus Aureus ATCC® 25923™ (antimicrobial activity 99,9%)
- Escherichia Coli ATCC® 25922™ (antimicrobial activity 99,9%)
- Klebsiella Pneumoniae ATCC® 13883™ (antimicrobial activity 99,8%)
- Pseudomonas Aeruginosa ATCC® 27853™ (antimicrobial activity 99,9%)

- Candida Albicans ATCC® 10231™ (antimicrobial activity 98,9%)

SAN -Antimicrobial products are available in technopolymer **RAL 7021 grey-black** or in the new **RAL 9016 white** colours. The laser-engraved logo is clearly recognisable on the matte surface.

HOW SILVER IONS Ag+ WORK

1. THEY **BREAK THROUGH** THE MICROBE CELL WALL
2. THEY **INTERRUPT** INTRACELLULAR ENZYMES
3. THEY **ATTACK** THE DNA OF THE MICROBE TO STOP CELL REPLICATION



01. *Staphylococcus aureus* 02. *Escherichia coli* 03. *Klebsiella pneumoniae* 04. *Pseudomonas aeruginosa* 05. *Candida albicans*

01. STAPHYLOCOCCUS AUREUS
Staphylococcus aureus is a Gram-positive bacterium, normally present in the majority of adults. The name of the species, "aureus", derives from the fact that its crops take a golden yellow pigmentation. S. aureus is responsible for acute infections that can be located in different parts of the organism such as: skin, skeletal system, respiratory system, urinary system, central nervous system. Antibiotic resistance is an often-frequent feature of these bacteria, especially in the so-called nosocomial infections, constituting a problem that should not be underestimated.

02. ESCHERICHIA COLI
Escherichia coli is a Gram-negative bacterium and its presence in water bodies indicates the presence of contamination.It can cause infections in the intestinal and urinary systems and sometimes it also causes meningitis.

03. KLEBSIELLA PNEUMONIAE
Klebsiella pneumoniae is a Gram-negative bacterium. It can cause bacterial pneumonia, although it is more commonly involved in hospital-acquired infections in the urinary system and in wounds. It has become a growing nosocomial infection as antibiotic-resistant strains continue to appear.

04. PSEUDOMONAS AERUGINOSA
Pseudomonas aeruginosa is a ubiquitous Gram-negative bacterium, considered an opportunistic pathogen in humans.
It can theoretically infect all body areas even if the following main infections are distinguished: pulmonary, cutaneous, urinary tract, eye, ears, heart.

05. CANDIDA ALBICANS
Candida albicans is a saprophytic fungus that is normally found in the oral cavity, gastrointestinal tract and vagina.
It can become pathogenic in specific conditions causing candidiasis. These forms of candida usually affect individuals who have undergone long antibiotic treatments, prolonged and intense stress or hormonal changes.

ANTIMICROBIAL TECHNOPOLYMER COMPONENTS

VTT-SST-SAN
Solid knobs
Technopolymer with antimicrobial protection
page 5

EWN-SST-SAN
Wing nuts
Technopolymer with antimicrobial protection
page 6

ERZ-SST-SAN
Adjustable handles
Technopolymer with antimicrobial protection
page 7

EBP-SAN
Bridge handles
Technopolymer with antimicrobial protection
page 8

EKK-SST-SAN
Knurled grip knobs
Technopolymer with antimicrobial protection
page 9

I.780-SAN
Cylindrical fixed handles
Technopolymer with antimicrobial protection
page 10

I.644-SST-SAN
Tapered revolving handles
Technopolymer with antimicrobial protection
page 11

VTT-SST-SAN | Solid knobs

Technopolymer with antimicrobial protection

MATERIAL

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish.

STANDARD EXECUTION

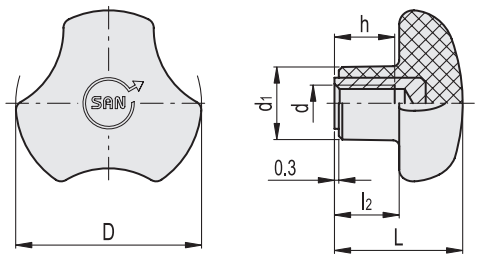
AISI 304 stainless steel boss, threaded blind hole.

FEATURES AND APPLICATIONS

The special antimicrobial additive prevents the proliferation of microbes, bacteria and fungi on the product surface.
The controlled release mechanism of the silver ions keeps the antimicrobial characteristics unchanged over time, even after several washing cycles.
The high temperature resistance of the additive used allows its use even in sterilisation cycles (130°C).
Material samples have been tested in accredited laboratories, according to the standards of ISO 22196: 2011 (Measurement of antibacterial activity on plastics and other non-porous surfaces) which derives from the JIS Z 2801 standard.
The following microbe strains have been used for the tests:
- Escherichia Coli ATCC® 25922™ (antimicrobial activity 99,9%).
- Staphylococcus Aureus ATCC® 25923™ (antimicrobial activity 99,9%).
- Klebsiella Pneumoniae ATCC® 13883™ (antimicrobial activity 99,8%).
- Pseudomonas Aeruginosa ATCC® 27853™ (antimicrobial activity 99,9%).
- Candida Albicans ATCC® 10231™ (antimicrobial activity 98,9%).

The three-lobe shape with large recesses is particularly ergonomic also for smaller knobs, ensuring an effective grip even with work gloves.
The design without rear cavities, generally adopted for reducing thickness, prevents unhealthy residues from depositing, ensuring easy cleaning.
Antimicrobial additives are suitable for all applications where sanitisation and hygiene are fundamental, for example:
- medical and hospital equipment;
- disability aids;
- machines for food processing and pharmaceutical industry;
- equipment for catering service;
- urban and public fittings.

ELESA Original design



Code	Description	Code	Description	D	d6H	L	d1	l2	h	⚖
153266-C1	VTT.40-SST-M8-SAN-C1	153266-C16	VTT.40-SST-M8-SAN-C16	40	M8	27	16	13.5	13	23
153297-C1	VTT.50-SST-M10-SAN-C1	153297-C16	VTT.50-SST-M10-SAN-C16	50	M10	30	19	15	17	36

MATERIAL
Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish.

CAP
Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish, press-fit assembly.
Available also as accessory sold separately (see table ECA.).

Code	*Description*	*Cap for*
*29756-**	*ECA.W2-SAN-**	*EWN.40*
*29757-**	*ECA.W3-SAN-**	*EWN.55*

** Complete with colour index (C1, C16).*

STANDARD EXECUTION
AISI 304 stainless steel boss, threaded blind hole.

FEATURES AND APPLICATIONS
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- Pseudomonas Aeruginosa ATCC® 27853™ (antimicrobial activity 99,9%).
- Candida Albicans ATCC® 10231™ (antimicrobial activity 98,9%).

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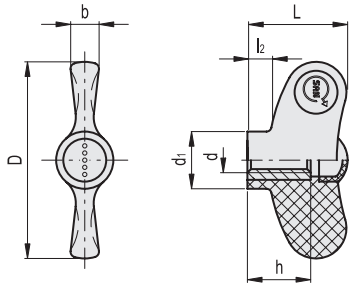
- medical and hospital equipment;
- disability aids;
- machines for food processing and pharmaceutical industry;
- equipment for catering service;
- urban and public fittings.

ERGOSTYLE® ELESA Original design



Code	Description	Code	Description	D	d6H	L	d1	l2	b	h	C# [Nm]	⚖
153124-C1	EWN.40 SST-M6-SAN-C1	153124-C16	EWN.40 SST-M6-SAN-C16	40	M6	20	13.5	4	6	12	10	11
153128-C1	EWN.55 SST-M8-SAN-C1	153128-C16	EWN.55 SST-M8-SAN-C16	55	M8	28	16	6.5	8	18	15	15

"Max limit Tightening torque" means the max torque value at which the metal insert, in normal conditions of use, is perfectly and strongly anchored to the plastic material.

ERZ-SST-SAN | Adjustable handles

Technopolymer with antimicrobial protection

LEVER BODY

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish. Built-in zinc alloy toothed insert for coupling to the metal clamping element.

STANDARD EXECUTION

AISI 303 stainless steel clamping element with threaded hole and retaining screw. AISI 302 stainless steel return spring.
Retaining screw with six-lobed socket to fit TORX®*.

FEATURES AND APPLICATIONS

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The following microbe strains have been used for the tests:
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- Staphylococcus Aureus ATCC® 25923™ (antimicrobial activity 99,9%).
- Klebsiella Pneumoniae ATCC® 13883™ (antimicrobial activity 99,8%).
- Pseudomonas Aeruginosa ATCC® 27853™ (antimicrobial activity 99,9%).
- Candida Albicans ATCC® 10231™ (antimicrobial activity 98,9%).

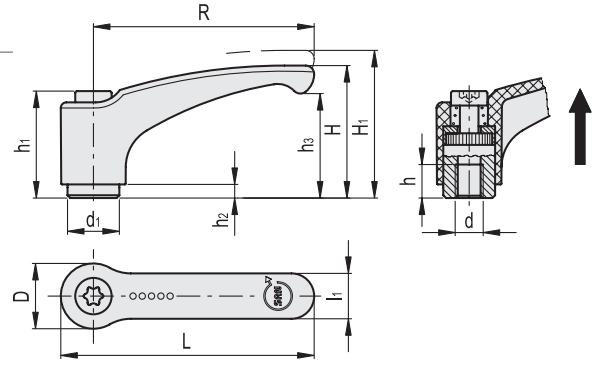
Particularly suitable when the lever turning angle is limited owing to lack of space.
The metal teeth of the built-in zinc alloy insert allow the assembly of clamping elements completely made out of metal, which can be easily modified by machining in case of special assembly requirements.
Antimicrobial additives are suitable for all applications where sanitisation and hygiene are fundamental, for example:
- medical and hospital equipment;
- disability aids;
- machines for food processing and pharmaceutical industry;
- equipment for catering service;
- urban and public fittings.

INSTRUCTIONS OF USE

For clamping, lift the lever to disengage the clamping device teeth and bring it back to start position. By releasing the lever, the return spring automatically engages the teeth.
If the lever cannot make a 360° rotation, the clamping element can be easily screwed by means of the six-lobed socket front head screw (after having disengaged the lever).

* Registered trademark by TEXTRON INC.

ERGOSTYLE® ELESA Original design



INOX STAINLESS STEEL

Code	Description	Code	Description	R	d	L	D	H	H1	h	h1	h2	h3	d1	l1	Teeth no.	⚖
153432-C1	ERZ.63 SST-M6-SAN-C1	153432-C16	ERZ.63 SST-M6-SAN-C16	63	M6	73.5	19	38.5	42	10	31	3.5	30	13.5	13.5	24	33
153434-C1	ERZ.78 SST-M8-SAN-C1	153434-C16	ERZ.78 SST-M8-SAN-C16	78	M8	90.5	23	45	50.5	14	36	3.5	35	16	16	26	61

EBP-SAN | Bridge handles

Technopolymer with antimicrobial protection

MATERIAL

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish.

SCREW-COVERS

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish. Supplied with the handle, press-fit assembly, removable by a screwdriver.
Available also as accessories sold separately (see table ECA.).

Code	*Description*	*Caps for*
*29836-**	*ECA.B1-SAN-**	*EBP.140 / EBP.200*

** Complete with colour index (C1, C16).*

STANDARD EXECUTION

Pass-through holes for cylindrical-head screws with hexagon socket.

FEATURES AND APPLICATIONS

The special antimicrobial additive prevents the proliferation of microbes, bacteria and fungi on the product surface.
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Material samples have been tested in accredited laboratories, according to the standards of ISO 22196: 2011 (Measurement of antibacterial activity on plastics and other non-porous surfaces) which derives from the JIS Z 2801 standard.
The following microbe strains have been used for the tests:
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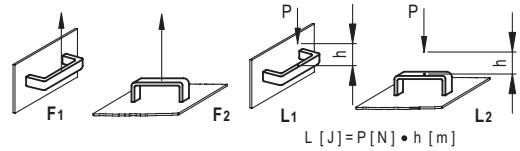
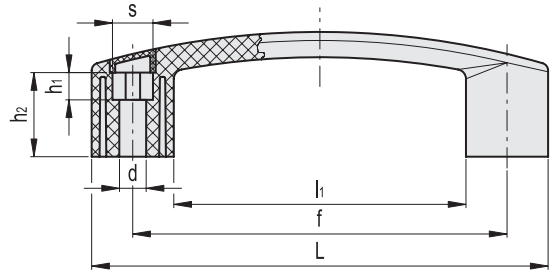
Antimicrobial additives are suitable for all applications where sanitisation and hygiene are fundamental, for example:
- medical and hospital equipment;
- disability aids;
- machines for food processing and pharmaceutical industry;
- equipment for catering service;
- urban and public fittings.

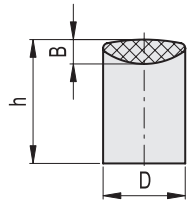
TECHNICAL DATA

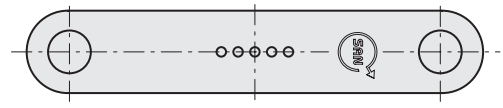
Tensile stress and impact strength: the values F1, F2, L1 and L2 indicated in the table were obtained during breaking tests carried out with the appropriate dynamometric equipment under the test conditions shown in the figure with ambient temperature.

ERGOSTYLE® ELESA Original design









Code	Description	Code	Description	L	f	d	s	D	h	h1	h2	B	l1	F1 [N]	F2 [N]	L1 [J]	L2 [J]	⚖
153211-C1	EBP.140-8-SAN-C1	153211-C16	EBP.140-8-SAN-C16	144	117±0.5	8.5	13	26	39	8.5	26.5	8.5	92	2700	1800	10	4	58
153223-C1	EBP.200-8-SAN-C1	153223-C16	EBP.200-8-SAN-C16	208.5	179±1	8.5	13	29	51	16	35	9.5	150.5	2200	1500	16	9	95

EKK-SST-SAN | Knurled grip knobs

Technopolymer with antimicrobial protection

MATERIAL

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish.

STANDARD EXECUTION

AISI 304 stainless steel boss, threaded blind hole.

FEATURES AND APPLICATIONS

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Antimicrobial additives are suitable for all applications where sanitisation and hygiene are fundamental, for example:
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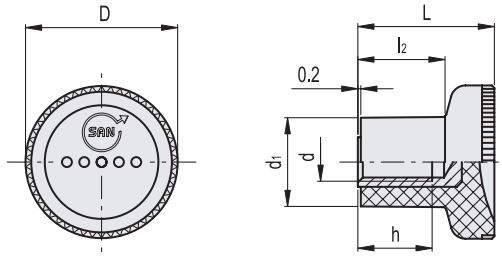
- disability aids;
- machines for food processing and pharmaceutical industry;
- equipment for catering service;
- urban and public fittings.

ERGOSTYLE® ELESA Original design



Code	Description	Code	Description	D	L	d6H	d1	h	l2	⚖
153159-C1	EKK.21-SST M5-SAN-C1	153159-C16	EKK.21-SST M5-SAN-C16	21	18	M5	12.5	10	10.5	7
153163-C1	EKK.31-SST M8-SAN-C1	153163-C16	EKK.31-SST M8-SAN-C16	31	27	M8	18.5	15	17	20

I.780-SAN | Cylindrical fixed handles

Technopolymer with antimicrobial protection

MATERIAL

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish.

MOUNTING

Threaded blind hole.

FEATURES AND APPLICATIONS

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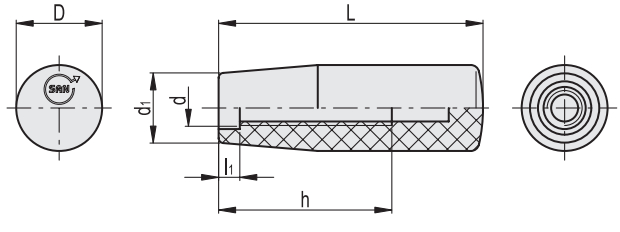
ELESA Original design



Code	Description	Code	Description	D	L	d	d1	h	l1	⚖
153037-C1	I.780/80-M8-SAN-C1	153037-C16	I.780/80-M8-SAN-C16	26.5	80	M8	21	40	7	48

I.644-SST-SAN | Tapered revolving handles

Technopolymer with antimicrobial protection

MATERIAL

Glass-fibre reinforced polyamide based (PA) technopolymer, with silver ion additive on an inorganic base, RAL 7021 grey-black colour (C1) or RAL 9016 white (C16), matte finish.

STANDARD EXECUTION

AISI 304 stainless steel pin, hexagonal socket at threaded end.

FEATURES AND APPLICATIONS

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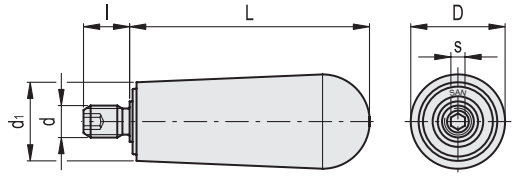

Code	Description	Code	Description	D	L	d	d1	l	s	⚖
153031-C1	I.644/90+x-M8-SST SAN-C1	153031-C16	I.644/90+x-M8-SST SAN-C16	36	90	M8	30	16	4	132

ELESA. More and more...

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