KLS martin GROUP



independant® Flex

Healthcare Design Technology

www.klsmartin.com



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Why choose **independant®** Flex?

BrakeLight
All independant® Flex arms are equipped with the newest LED backlighted heads. These will help the medical staff to visualize and coordinate intuitively which arm they are operating.

Tailor-made configurations and solutions
independant® Flex can be configured in compliance with any tender specification. Not only the customer can select from a range of available standard lengths for the arms and dimensions for the service head but also these components can be made to measure if needed.

Easy to install, easier to maintain
We create equipment based on two simple key principles: ease of installation and long-lasting top quality components ensuring minimum maintenance and maximum reliability.
independant® Flex is delivered preassembled to reduce costs of installation. Easy removable system of the cover for installation and maintenance access.

Functional design and ergonomics
independant® Flex is designed to be handled intuitively with maximum ease. Profiles shapes and the various components proportions are well-thought-out so as to optimize handling.





Powder coating, powered hygiene

Protecting epoxy powder coating guarantees an adequate hygienic surface for all our pendant units. This could be boosted further with our dedicated antibacterial BIOCLEAN paint to ensure a shield against infectious agents.

Safe and firm locking

Our enhanced brake system ensures smooth controlled movements and maximum reliability in the course of time. The control keyboard is placed on the main grip of the shelf to drive all movements intuitively.

There are three different solutions of brake system:

- Friction brake
- Electropneumatic brake
- Electromagnetic brake
  - operation without compressed air
  - low voltage supply
  - high durability due to absence of wear out friction material

Solid hygiene

Thanks to our innovative BIOCLEAN shelves and drawers independant® Flex guarantees complete antibacterial surface. The composite material is extremely long-lasting and guarantees in time the adequate hygiene during all operating procedures.

The surface is easy to clean, durable thanks to the solid material, and retains its color and structure over long term.

Configuration



independant® Flex
independant® Flex supply system is a suspended unit thought specifically for special intensive care units and operating theaters. It can be configured either for the surgeon or the anesthesiologist and the service head can be equipped with all the needed electrical and medical components in compliance with any specification given.
It has been designed to offer the medical staff maximum flexibility and reliability.



independant® Flex
Vertical motorized / horizontal motorized
independant® Flex is also available with a full motorized mechanism for lifting the service head. This will allow to adjust the height to have all services always in the right place.





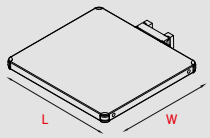
independant® Flex can also be supplied in the most complete configuration which is highly requested for all ICU areas. Both sides are safely guaranteed by this specific system that allows a number of combinations: single or double arms for each console to make it ergonomically adequate for all types of action needed on the patient.



Accessoires

independant® Flex can be fully personalized with a broad range of accessories. Special rail supports or vertical poles are available for installing the needed complementary equipment to monitor the patients vital signs.

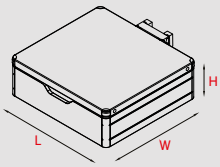
independant® Flex allows fast operation by making it easier for the medical staff to use the equipment, guaranteeing an optimal care to each patient.



Painted steel shelf

Painted steel structure, aluminum fixings

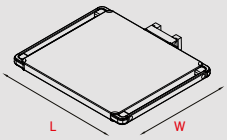
L 460 mm – W 440 mm – Load 40 kg
L 560 mm – W 440 mm – Load 35 kg
L 700 mm – W 440 mm – Load 30 kg



Painted steel drawer

Painted steel structure, aluminum fixings

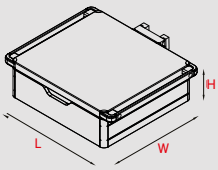
L 460 mm – W 440 mm – H 150 mm – Load 40 kg



Painted steel shelf with DIN rails

Painted steel structure, aluminum fixings and two DIN rails

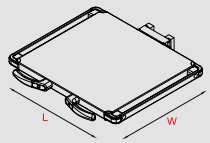
L 530 mm – W 440 mm – Load 40 kg
L 630 mm – W 440 mm – Load 35 kg
L 770 mm – W 440 mm – Load 30 kg



Painted steel drawer with DIN rails

Painted steel structure, aluminum fixings and two DIN rails

L 530 mm – W 440 mm – H 150 mm – Load 40 kg
L 630 mm – W 440 mm – H 150 mm – Load 35 kg
L 770 mm – W 440 mm – H 150 mm – Load 30 kg

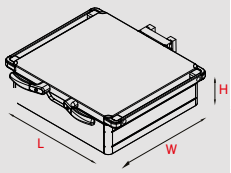


Painted steel shelf with DIN rails and control pads

Painted steel structure, aluminum fixings,
two DIN rails and control pads

L 530 mm – W 440 mm – Load 40 kg
L 530 mm – W 440 mm – Load 40 kg*
L 630 mm – W 440 mm – Load 35 kg
L 770 mm – W 440 mm – Load 30 kg

*LED

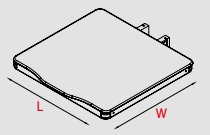


Painted steel drawer with DIN rails and control pads

Painted steel structure, aluminum fixings,
two DIN rails and control pads

L 530 mm – W 440 mm – H 150 mm – Load 40 kg
L 530 mm – W 440 mm – H 150 mm – Load 40 kg*
L 530 mm – W 440 mm – H 150 mm – Load 40 kg**
L 630 mm – W 440 mm – H 150 mm – Load 40 kg
L 770 mm – W 440 mm – H 150 mm – Load 40 kg

*LED
** with key

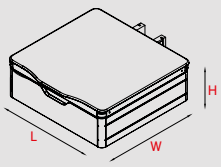


BIOCLEAN shelf

Painted steel structure, solid material top, aluminum fixings

L 470 mm – W 450 mm – Load 40 kg
L 470 mm – W 450 mm – Load 40 kg*

*LED

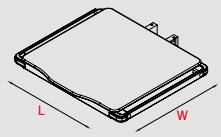


BIOCLEAN drawer

Painted steel structure, solid material top, aluminum fixings

L 470 mm – W 450 mm – H 160 mm – Load 40 kg
L 470 mm – W 450 mm – H 160 mm – Load 40 kg*

*LED

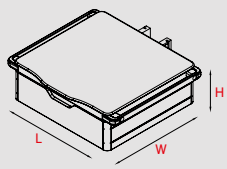


Bioclean shelf with DIN rails

Painted steel structure, solid material top, aluminum fixings
and two DIN rails

L 530 mm – W 450 mm – Load 40 kg
L 530 mm – W 450 mm – Load 40 kg*
L 630 mm – W 450 mm – Load 35 kg
L 770 mm – W 450 mm – Load 30 kg

*LED

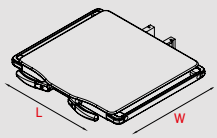


BIOCLEAN drawer and DIN rails

Painted steel structure, solid material top, aluminum fixings
and two DIN rails

L 530 mm – W 450 mm – H 160 mm – Load 40 kg
L 530 mm – W 450 mm – H 160 mm – Load 40 kg*

*LED

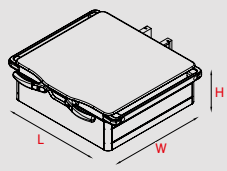


BIOCLEAN shelf with DIN rails and control pads

Painted steel structure, solid material top,
aluminum fixings, two DIN rails and control pads

L 530 mm – W 450 mm – Load 40 kg
L 630 mm – W 450 mm – Load 35 kg
L 770 mm – W 450 mm – Load 30 kg
L 770 mm – W 450 mm – Load 30 kg*

*LED



BIOCLEAN drawer with DIN rails and control pads

Painted steel structure, solid material top,
aluminum fixings, two DIN rails and control pads

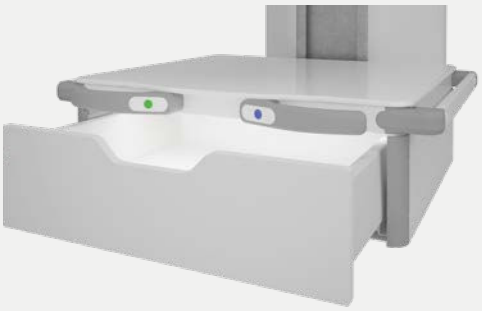
L 530 mm – W 450 mm – H 160 mm – Load 40 kg
L 530 mm – W 450 mm – H 160 mm – Load 40 kg*
L 630 mm – W 450 mm – H 160 mm – Load 35 kg
L 770 mm – W 450 mm – H 160 mm – Load 30 kg

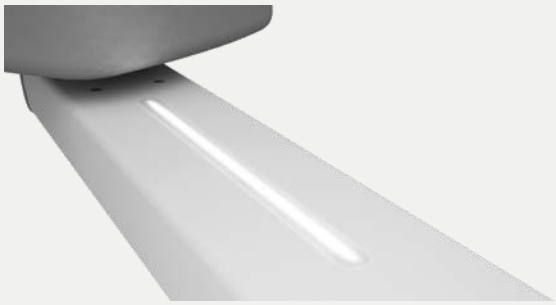
*LED

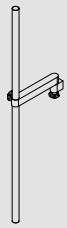
LED lighting features

On demand, the drawer can also offer a LED lighting placed underneath the control pads to illuminate the drawer when opened.

Integrated LED stripes for ambient lighting are also available upon request. In this way the environment will be adequately illuminated through the swiveling arms. This is an optimal solution to integrate necessary ambient lighting especially for the endoscopic operations.



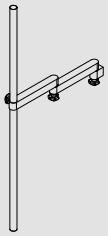




Vertical pole with single arm

Swiveling vertical pole with single arm for accessories (e.g. for infusion pump) made of stainless steel, support made of aluminum

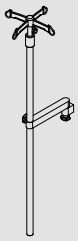
L 600 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 800 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1000 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1200 mm – W 200 mm – Ø 25 mm – Load 15 kg



Vertical pole with double arm

Swiveling vertical pole with double arm for accessories (e.g. for infusion pump) made of stainless steel, support made of aluminum

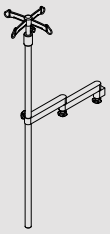
L 600 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 800 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1000 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1200 mm – W 200 mm – Ø 25 mm – Load 15 kg



Infusion pole with single arm

Height adjustable infusion pole with single arm made of stainless steel, support made of aluminum, plastic hooks

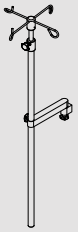
L 600 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 800 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1000 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1200 mm – W 200 mm – Ø 25 mm – Load 15 kg



Infusion pole with double arm

Height adjustable infusion pole with double arm made of stainless steel, support made of aluminium, stainless steel hooks

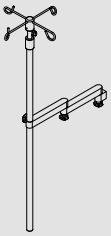
L 800 mm – W 200 mm – Ø 25 mm – Load 10 kg
L 1000 mm – W 200 mm – Ø 25 mm – Load 10 kg
L 1200 mm – W 200 mm – Ø 25 mm – Load 10 kg



Infusion pole with single arm

Height adjustable infusion pole with single arm made of stainless steel, support made of aluminium, stainless steel hooks

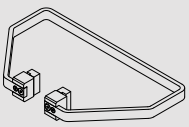
L 600 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 800 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1000 mm – W 200 mm – Ø 25 mm – Load 15 kg
L 1200 mm – W 200 mm – Ø 25 mm – Load 15 kg



Infusion pole with double arm

Height adjustable infusion pole with double arm, made of stainless steel, support made of aluminum, stainless steel hooks

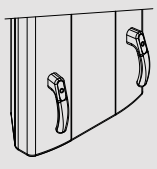
L 600 mm – W 400 mm – Ø 25 mm – Load 10 kg
L 800 mm – W 400 mm – Ø 25 mm – Load 10 kg
L 1000 mm – W 400 mm – Ø 25 mm – Load 10 kg
L 1200 mm – W 400 mm – Ø 25 mm – Load 10 kg



Perimetral DIN rail 25 x 10 mm made of stainless steel

Rail made of stainless steel, support made of aluminium

L 450 mm – W 270 mm – Load 10 kg



Twin handle for pendant control

Handles for control movement

All independant® Flex products can be equipped with various accessories which can be arranged:

- on a vertical console;
- on a horizontal console.

Both configurations can accomodate a different number of shelves and drawers. According to the number of shelves/ drawers required the dimensions of the system will vary.



Vertical console



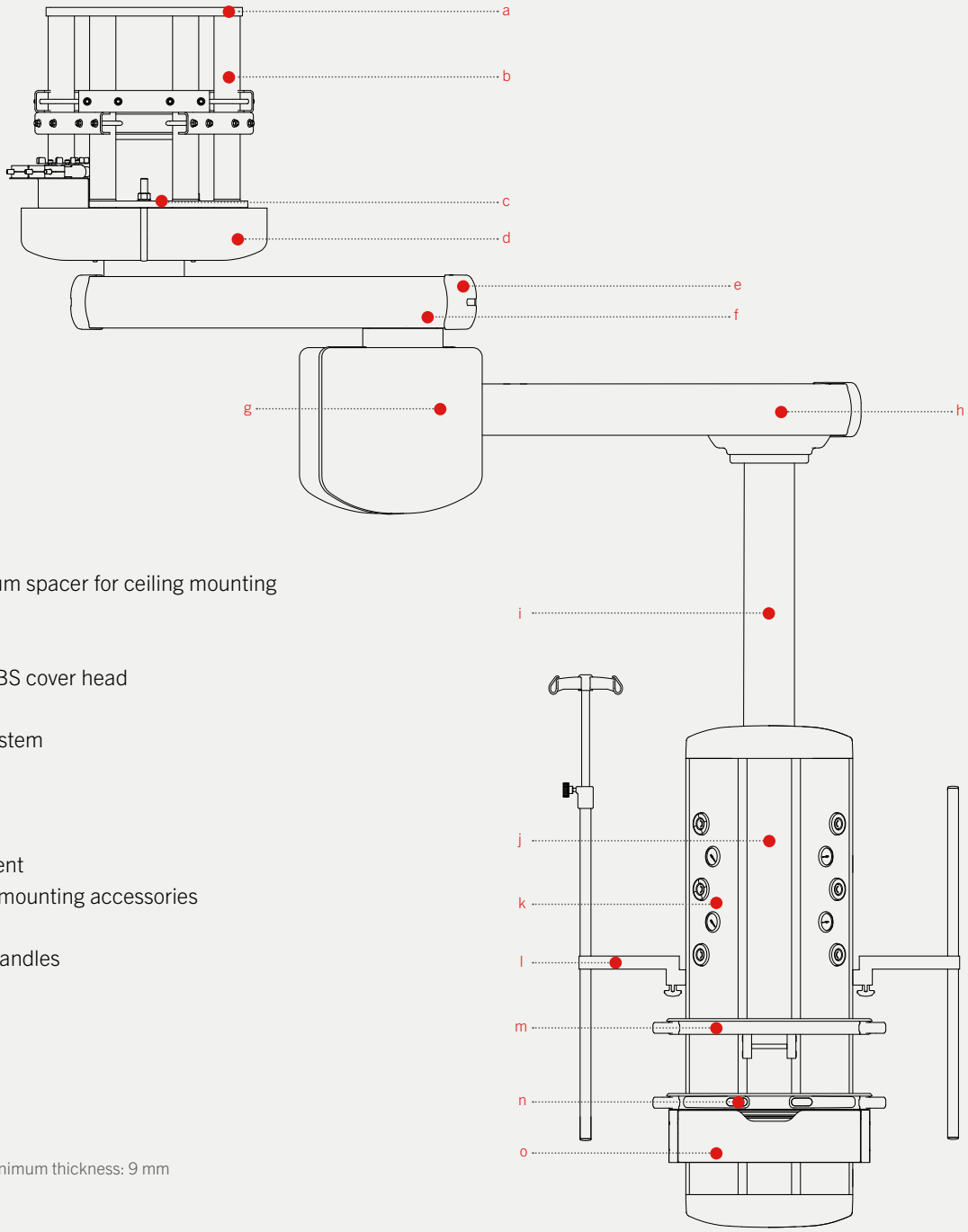
Horizontal console



Anesthesia docking system

Upon request the console can be equipped with the docking system for the anesthesia machine.
According to the brand and model we can adapt our system to hook perfectly the related chosen equipment.
The mounting system can be height adjusted and the tolerance is ± 200 mm.

Profile overview

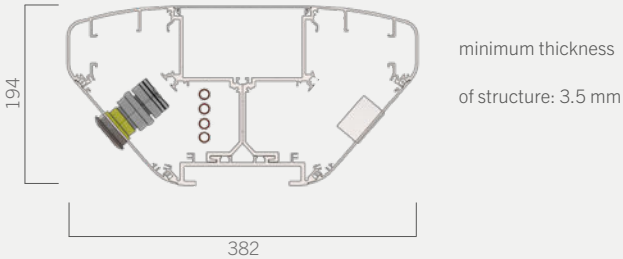


a Ceiling plate
b Adjustable aluminum spacer for ceiling mounting
c Intermediate plate
d Canopy
e LED backlighted ABS cover head
f Upper rotating arm
g Motorized lifting system
h Lower rotating arm
i Console tube
j Rail track
k Service compartment
l Swiveling arms for mounting accessories
m Shelf
n Control pads and handles
o Drawer

Arm dimensions

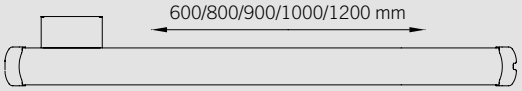


Console dimensions



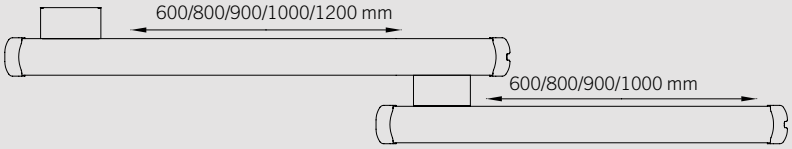
This image is for general demonstration only. The number of services varies according to the specifications given by each customer.

Loading capacities



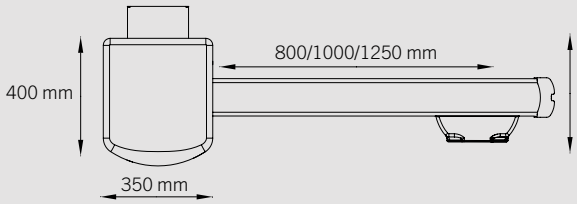
Single arm

Length	Load capacity
600 mm	400 kg
800 mm	320 kg
900 mm	300 kg
1000 mm	300 kg
1200 mm	280 kg



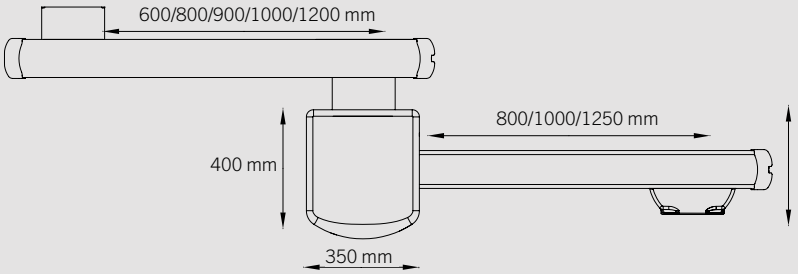
Double arm

Length	Load capacity
(600+600) = 1200 mm	280 kg
(900+600) = 1500 mm	260 kg
(800+800) = 1600 mm	260 kg
(1000+800) = 1800 mm	240 kg
(800+1000) = 1800 mm	220 kg
(900+900) = 1800 mm	240 kg
(1000+1000) = 2000 mm	180 kg
(1200 + 900) = 2100 mm	160 kg



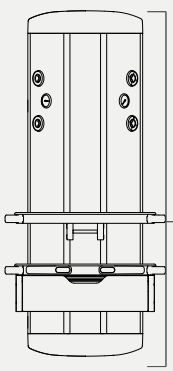
Single motorized arm

Length	Load capacity	Height adjustment
800 mm	300 kg	430 mm
1000 mm	250 kg	550 mm
1250 mm	145 kg	750 mm



Double motorized arm

Length	Load capacity	Height adjustment
(600+800) = 1400 mm	260 kg	430 mm
(600+1000) = 1600 mm	220 kg	550 mm
(900+800) = 1700 mm	260 kg	430 mm
(900+1000) = 1900 mm	220 kg	550 mm
(800+800) = 1600 mm	260 kg	430 mm
(1000+800) = 1800 mm	220 kg	430 mm
(800+1000) = 1800 mm	220 kg	550 mm
(1000+1000) = 2000 mm	180 kg	550 mm

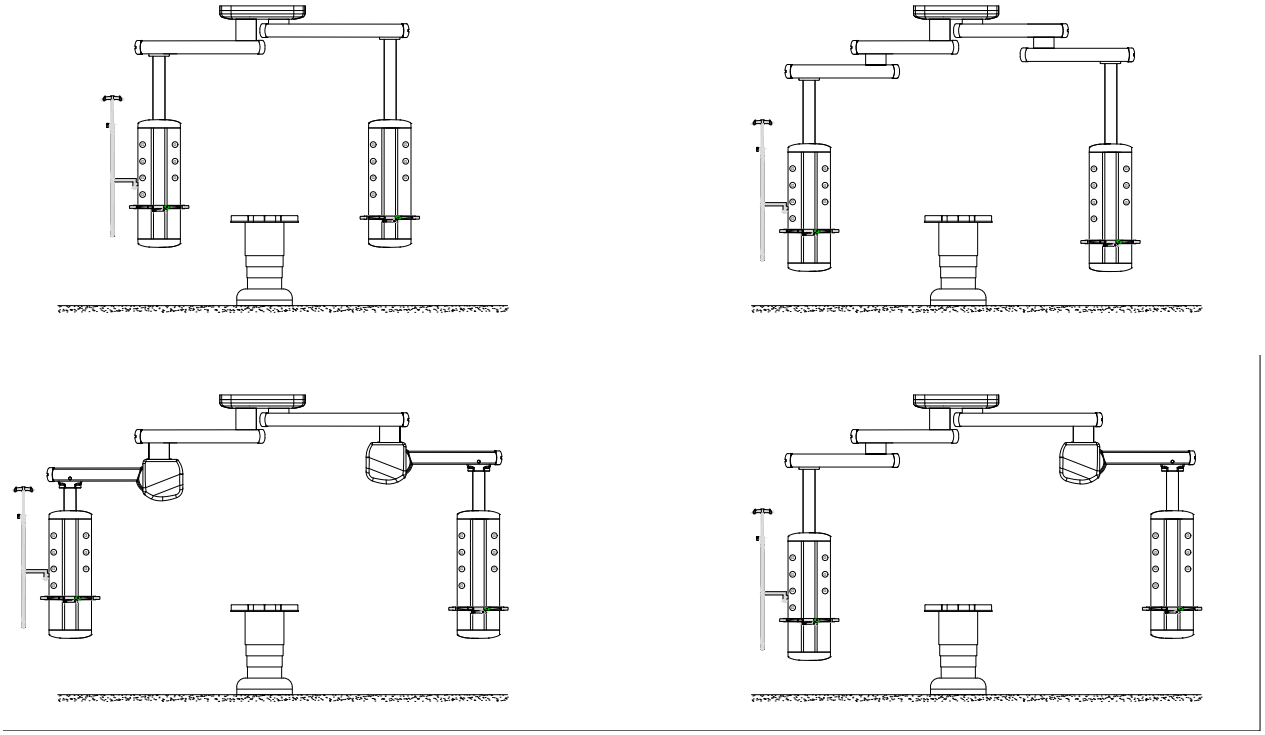


Configurations

Head console height	Maximum number of electrical devices	Maximum number of gas outlet	Total maximum number of devices
600 mm	12 pcs	8 pcs	29 pcs
1000 mm	22 pcs	14 pcs	32 pcs
1200 mm	28 pcs	16 pcs	35 pcs
1500 mm	36 pcs	20 pcs	43 pcs
1700 mm	40 pcs	22 pcs	46 pcs

Depending on customer requirements, the console is also available as a horizontal console or hammer head.

Arm configuration of independant® Flex



Control pad schemes



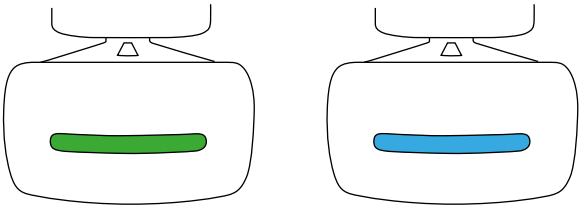
SINGLE ARM



DOUBLE ARM



SINGLE AND DOUBLE ARM MOTORIZED



The above schemes show how the arms are controlled via the control pads. The buttons are color coded so that once pressing the **LED** frontal signal light of the corresponding arm switches on. In this way the operator is always aware of which arm is being moved.
The control pads can be placed on the shelves, on the drawers or even on the console itself.
Please contact our sales team to find out about the available options.

Paintings



Recommended standard color

independant® Flex is painted with thermoset epoxy-polyester paint. Each single profile can be painted separately according to the customer's specific color matching.

ABS components



All our new independant® Flex product feature a number of **ABS** plastic covering components that improve the overall appearance.

Technical data sheet

Testing in production for each single unit	For each unit the following tests are performed: -grounding impedance protection in accordance with 18f) of standard 60601-1 - standard measurement of leakage current in accordance with 19.3 and 19.4 of EN 60601-1 – measurement of dielectric strength, in accordance with 20.3 and 20.4 of standard EN 60601-1 – requirements as in 59.101.1, 59.102.1 and 59.103.1; 59.101.2); 59.102.2 b), 59.103.2); 59.101.2 BC), 59.102.2 (c)) and 59.103.2. b) – pressure tests in accordance with 59.101.2. d) and 59.102.2. d)
MDR certificate	The devices are made in compliance with regulation (EU) 2017/745 on medical devices with certification CE0051.
Regulation	The equipment should be considered as class IIb.
Classification according to the type of protection against electrical hazards	Class I device. The protection against electric shock is guaranteed by the metal parts of the ground protection.
IP classification as per IEC 60529	Against penetration of liquids and external agents IP20.
Classification according to the use and conditions	Device for continuous operation.
Electromagnetic interference	The operation of other devices placed near the medical device (as portable equipment or furniture) can cause electromagnetic interference or other interference, always check with qualified personnel.
Protection provided on external power circuit	Provides adequate protection with circuit breakers or fuses dimensioned according to the power indicated on the label.
Supply voltage	110-240 VAC 50/60 Hz
Low voltage	12-24 V-AC/DC
Wire minimum section	Lights 1.5 sq.mm Electrical sockets 2.5/4 sq.mm Ground 2.5/6 sq.mm
Conditions for storage	Temperature: between -10°C and +40°C Relative humidity: between 30% and 75%
Conditions for usage	Temperature: between +5°C and 35°C Relative humidity: between 30% and 75%
Maintenance	The pendant does not require routine standard maintenance but only long term one. Medical gases and electrical components are kept separated: for this reason no special caution during maintenance service is needed.
Cleaning	The epoxy-polyester paint or the anodic oxidation guarantee the durability of all external surfaces. Cleaning is recommended with soft cloth soaked with non-alcoholic and gentle detergents and disinfectants.
Testing	The products are fully tested and ready for immediate installing.
Ceiling fixing	Clamped onto the ceiling with an adjustable support.
Aluminum	Structural profile not less than 3.5 mm/cover profile not less than 1.8 mm; Alloy 6063 T6.
Electropneumatic brakes	24 Vcc - 4 Bar min - 6 Bar max
Electromagnetic brakes	24 Vcc
Gas connection	Through DIRECT connection, VALVE or NIST valve, with antistatic hoses positioned on the technical plate.
Quality management systems	EN ISO 13485

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