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VALiA X – Application overview







- Imaging & Therapy
- OR (Anesthesia, Surgery)
- ICU & NICU

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VALiA X – End Device Examples





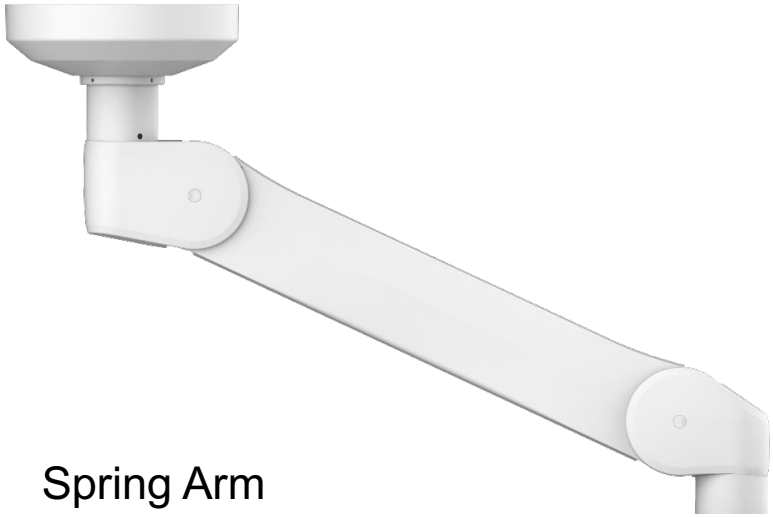


- Large Screen
- M20 Horizontal
- M20 Vertical

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VALiA X Portfolio: Height adjustable – End Device Examples



Spring Arm



Extension Arm + Spring Arm

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VALiA X Portfolio: Horizontally moveable



Single extension arm



Dual Extension Arm

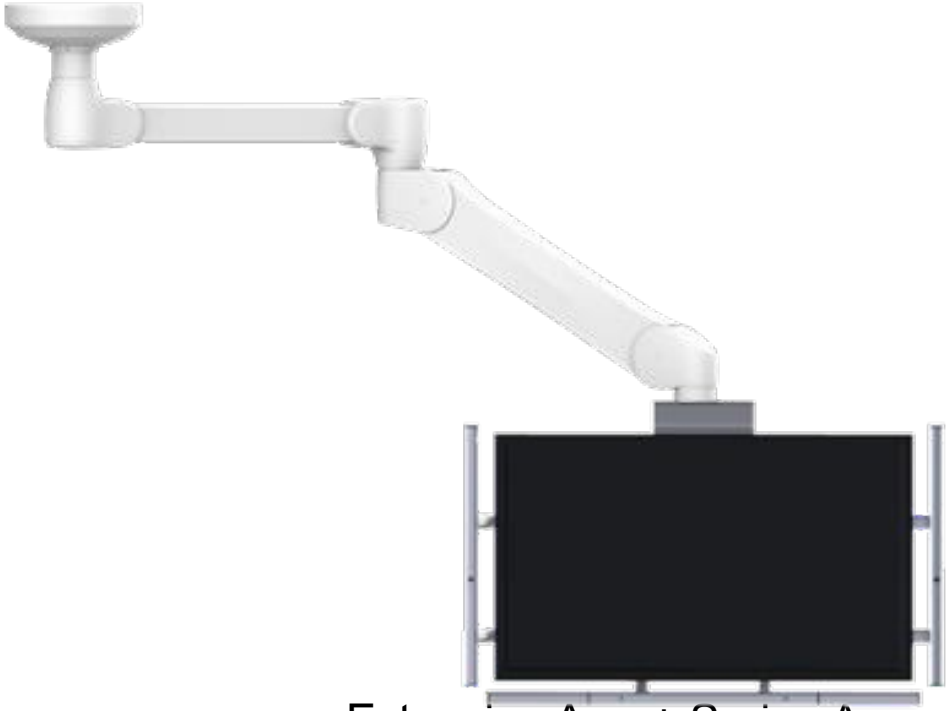
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VALiA X Systems with end devices: Height adjustable



Spring Arm



Extension Arm + Spring Arm

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VALiA X Systems with end devices: Horizontally movable



Extension Arm

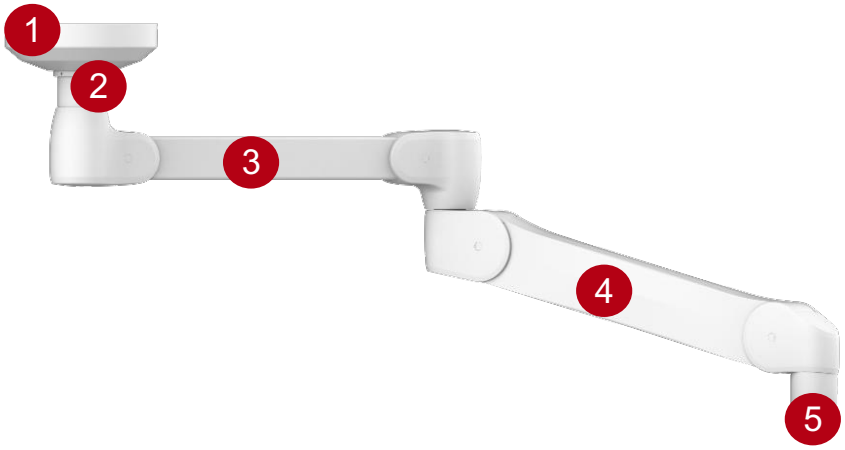


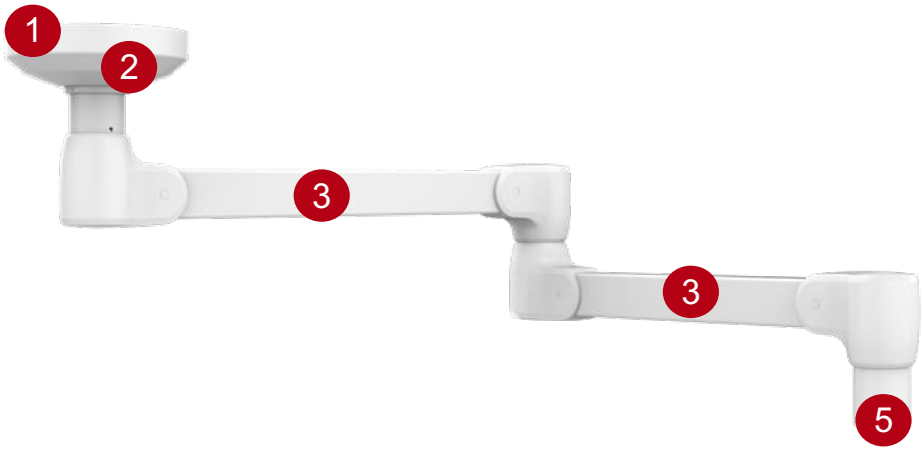
Extension Arm + Extension Arm

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VALiA X: Component Description



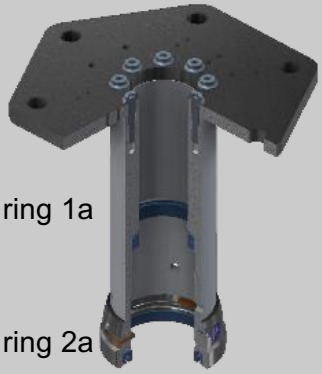


Ceiling Cover 1	Ceiling Tube 2	Extension Arm 3	Spring Arm 4	Drop tube 5
Various options	Diameter: 110 mm	Lengths: 600 mm 800 mm 1.000 mm 1.200 mm	Length: 1.016 mm Version: MD 60: 30 – 60 kg MD 90: 50 – 90 kg MD 110: 70 – 110 kg	Connection Tube for mounting the Service Head

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VALiA X Ceiling Tube

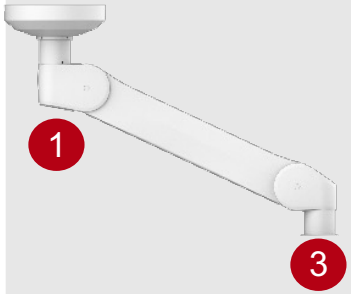
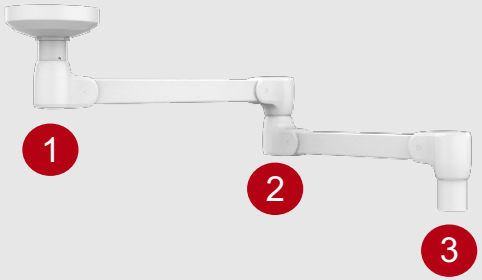
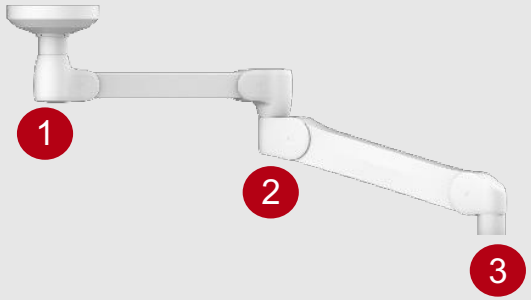
	…for systems with articulating arm only	…for systems with extension arm
		 Power Bearing* containing two ball bearing rings for smooth movement
System	Spring Arm (Articulating Arm, A4)	Extension arm (EA) Extension arm + Extension arm (EAEA) Extension arm + Spring arm (EAAA)
Diameter	110 mm	110 mm
Lengths	200, 250, 300, 400, 500, 600, 800, 1.000 mm	250, 300, 400, 500, 600, 800, 1.000 mm
Mounting type	Screwed onto the flange,270 mm bolt circle	Screwed onto the flange, 270 mm bolt circle

*The system with extension arm requires a more stable bearing that the system with spring arm only (as the moment load is significant higher);

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VALiA X Rotation

Height adjustable system		Horizontally movable system	
Single	Dual	Single	Dual
			
Bearing 1: 360° Bearing 3: 330°	Bearing 1: 340° Bearing 2: 360° Bearing 3: 330°	Bearing 1: 340° Bearing 3: 330°	Bearing 1: 340° Bearing 2: 360° Bearing 3: 330°
STANDARD STOP* | One stop (Stop at bearing 1) Adjustable by changing the mounting position. Mounting onto the ceiling kit**: 6 x 60°** (6 threaded rods)	**COMFORT STOP | One or two stops** (Stop at bearing 1) Adjustable by **16 x 22,5°** steps		

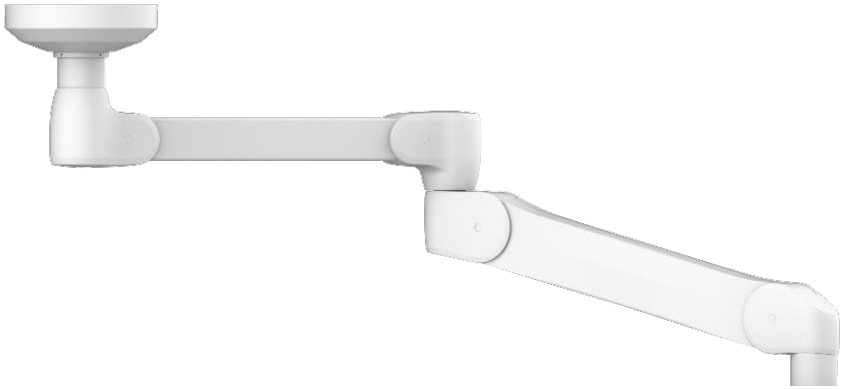
*Position must be defined before installation; after installation difficult to reposition

*** *Product is in development stage* *** *Data and content are subject to change* ***

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VALiA X Vertical Movement: Height Adjustable System



	Vertical Stroke	Height Stop	Height locking pin
MD 60	+25°/ -50° (980 mm)	Steplessly adjustable **from 0° to +25°**	**Optional feature**, adjustable in up to 6 steps (depending on payload and vertical stroke range)
MD 90			
MD 110	+25°/ -25° (697 mm)		

**** Product is in development stage *** Data and content are subject to change ****

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VALiA X Payload Extension Arm: Spring Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm solo			
VALiA X spring arm MD60	60 kg	60 kg	50 kg
VALiA X spring arm MD90	90 kg	90 kg	50 kg
VALiA X spring arm MD110	110 kg	n/a	n/a



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VALiA X Payload Extension Arm: Spring Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,EA1/MD,**600**/MD**60**,CS,WS,R9010	60 kg	60 kg	50 kg
VA,X,EA1/MD,**800**/MD**60**,CS,WS,R9010	60 kg	60 kg	50 kg
VAX,EA1/MD,**1000**/MD**60**,CS,WS,R9010	60 kg	60 kg	50 kg
VAX,EA1/MD,**1200**/MD**60**,CS,WS,R9010	60 kg	60 kg	50 kg



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VALiA X Payload Extension Arm: Spring Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,EA1/MD,**600**/MD**90**,CS,WS,R9010	90 kg	90 kg	50 kg
VA,X,EA1/MD,**800**/MD**90**,CS,WS,R9010	90 kg	90 kg	50 kg
VAX,EA1/MD,**1000**/MD**90**,CS,WS,R9010	90 kg	90 kg	50 kg
VAX,EA1/MD,**1200**/MD**90**,CS,WS,R9010	90 kg	85 kg	50 kg



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VALiA X Payload Extension Arm: Spring Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,EA1/MD,**600**/MD**110**,CS,WS,R9010	110 kg	n/a	n/a
VA,X,EA1/MD,**800**/MD**110**,CS,WS,R9010	110 kg	n/a	n/a
VAX,EA1/MD,**1000**/MD**110**,CS,WS,R9010	110 kg	n/a	n/a
VAX,EA1/MD,**1200**/MD**110**,CS,WS,R9010	110 kg	n/a	n/a



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VALiA X Payload: Extension Arms single

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm solo			
VALiA X extension arm single 600	170 kg	140 kg	80 kg
VALiA X extension arm single 800	170 kg	140 kg	80 kg
VALiA X extension arm single 1000	170 kg	140 kg	80 kg
VALiA X extension arm single 1200	170 kg	140 kg	80 kg



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VALiA X Payload: Extension Arm/ Extension Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,Boom,600/600,CS,WS,R9010	170 kg	140 kg	80 kg
VA,X,Boom,600/800,CS,WS,R9010	150 kg	120 kg	70 kg
VA,X,Boom,800/600,CS,WS,R9010	150 kg	120 kg	70 kg
VA,X,Boom,800/800,CS,WS,R9010	150 kg	120 kg	70 kg



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VALiA X Payload: Extension Arm/ Extension Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,Boom,600/1000,CS,WS,R9010	120 kg	100 kg	50 kg
VA,X,Boom,1000/600,CS,WS,R9010	150 kg	120 kg	70 kg
VA,X,Boom,600/1200,CS,WS,R9010	100 kg	85 kg	50 kg
VA,X,Boom,1200/600,CS,WS,R9010	130 kg	115 kg	65 kg



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VALiA X Payload: Extension Arm/ Extension Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,Boom,800/1000,CS,WS,R9010	120 kg	100 kg	60 kg
VA,X,Boom,1000/800,CS,WS,R9010	130 kg	115 kg	65 kg
VA,X,Boom,800/1200,CS,WS,R9010	100 kg	85 kg	50 kg
VA,X,Boom,1200/800,CS,WS,R9010	115 kg	100 kg	60 kg



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VALiA X Payload: Extension Arm/ Extension Arm

Description	Payload centric up to (for monitor cariers and horizontal heads)	Payload eccentric up to (for vertical service heads)	Maximum load at the service head up to (at vertical service heads)
Spring Arm with extension arm			
VA,X,Boom,1000/1000,CS,WS,R9010	115 kg	100 kg	60 kg
VA,X,Boom,1000/1200,CS,WS,R9010	100 kg	85 kg	50 kg
VA,X,Boom,1200/1000,CS,WS,R9010	100 kg	95 kg	55 kg
VA,X,Boom,1200/1200,CS,WS,R9010	90 kg	85 kg	50 kg



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VALiA X Powerful Systems

If high payload is requested, go for **longer** extension arm on **top position.**

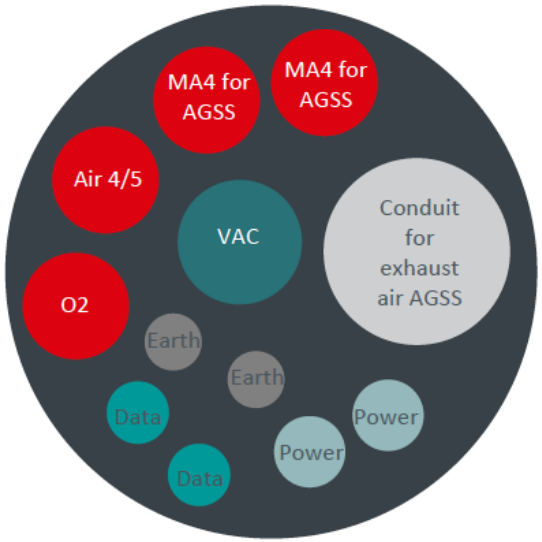


Horizontal Reach	Upper/ lower extension arm	Max. payload (centric) e.g. Monitor	Max. payload (eccentric) e.g. Service Head
1800 mm	600/ 1200	100 kg	85 kg
1800 mm	1200/ 600	130 kg	115 kg

**** Product is in development stage *** Data and content are subject to change ****

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Cable and Hose Capacity DIN, NF (w/o connectors) Anesthesia

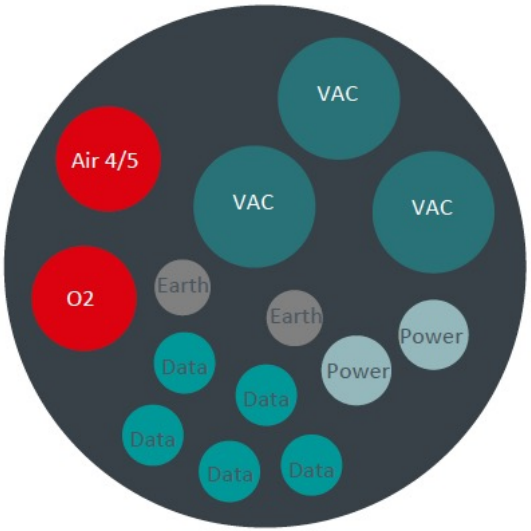


DIN/NF cable and hose package Anesthesia						
Gas type	No of gas outlets	Hoses	Outer Diameter in mm	Cross section in mm²	No of hoses/ cables in pcs	Total cross section in mm²
O2	2	Gas (6,7mm)	12,7	126,68	1	126,68
Air	2	Gas (6,7mm)	12,7	126,68	1	126,68
Vacuum (8mm)	2	Vacuum (8mm)	14	153,94	1	153,94
AGSS Venturi	1	AGSS Venturi Greggersen (two hoses Medical Air 4bar supply air + conduit for exhaust air)		600,00	1	600,00
		Supply Line, Electrical	8	50,27	2	100,53
		Supply Line, Data	7	38,48	2	76,97
		Grounding, 10 mm² (Standard 2, PA/PE separation 4)	6,4	32,17	2	64,34
		Total cross section configuration				1249,13
		Max. usable cable capacity (tested in Ondal's laboratory)				1307,7

- Cable capacity needs to be calculated with actual number and diameter of hoses, cables and conduits
- Under utilization of cross/y-fittings can be more gases
- The order of installation should also be taken into account. Cables with large connectors must be routed through first because the cross-section narrows as the equipment is fitted.
- Do not twist the hoses and cables

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Cable and Hose Capacity DIN, NF (w/o connectors) Surgical

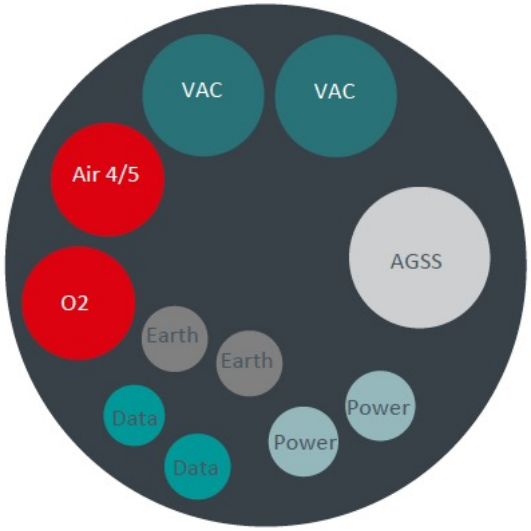


DIN/NF cable and hose package Surgical						
Color and Type	No of gas outlets	Color and Type	Outer Diameter in mm	Cross section in mm²	Quantity in pcs	Total cross section in mm²
O2	1	Gas (6,7mm)	12,7	126,68	1	126,68
Air	2	Gas (6,7mm)	12,7	126,68	1	126,68
Air8b/ Airmotor	1	Vacuum (8mm)	14	153,94	1	153,94
Vacuum (8mm)	3	Vacuum (8mm)	14	153,94	3	461,81
		Supply Line, Electrical	8	50,27	2	100,53
		Supply Line, Data	7	38,48	5	192,42
		Grounding, 10 mm² (Standard 2, PA/PE separation 4)	6,4	32,17	2	64,34
		Total cross section configuration				1226,40
		Max. usable cable capacity (tested in Ondal´s laboratory)				1307,7

- Cable capacity needs to be calculated with actual number and diameter of hoses, cables and conduits
- Under utilization of cross/y-fittings can be more gases
- The order of installation should also be taken into account. Cables with large connectors must be routed through first because the cross-section narrows as the equipment is fitted.
- Do not twist the hoses and cables

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Cable and Hose Capacity BS with NIST connectors/ Anesthesia



British Standard cable and hose package Anesthesia						
Gas type	No of gas outlets	Hoses	Outer Diameter in mm	Cross section in mm^2	No of hoses/ cables in pcs	Total cross section in mm^2
O2	1	Gas	13	132,73	1	132,73
Air	1	Gas	13	132,73	1	132,73
Air8b/Air7b	1	Gas	14	153,94	1	153,94
Vacuum (8mm)	2	Vacuum (8mm)	14	153,94	2	307,88
AGSS	1	AGSS	16,2	206,12	1	206,12
		Supply Line, Electrical	8	50,27	2	100,53
		Supply Line, Data	7	38,48	2	76,97
		Grounding, 10 mm^2 (Standard 2, PA/PE separation 4)	6,4	32,17	2	64,34
		Total cross section configuration				**1175,24**
		Max. usable cable capacity (tested in Ondal´s laboratory)				**1307,7**

- Cable capacity needs to be calculated with actual number and diameter of hoses, cables and conduits
- Not more than 5 hoses with NIST connector
- The order of installation should also be taken into account. Cables with large connectors must be routed through first because the cross-section narrows as the equipment is fitted.
- Do not twist the hoses and cables
- Penlon is not suitable for VALiA X because of the angled connector (see nect slide)

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VALiA X: Cable Capacity BS with NIST connectors







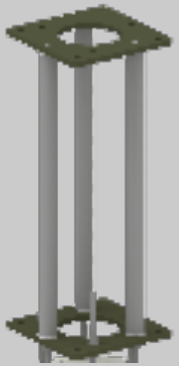
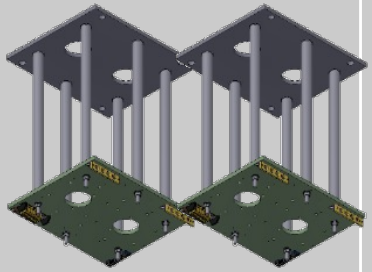
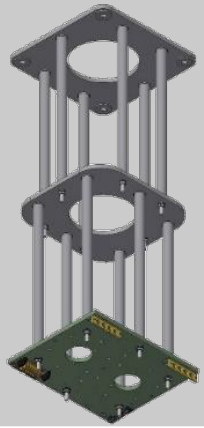
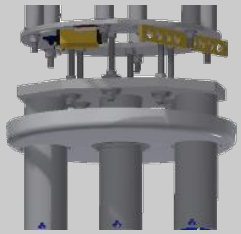
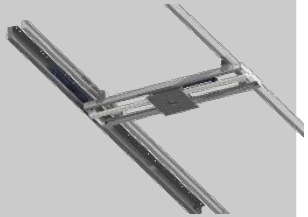


- Penlon is not suitable for VALiA X because of the angled connector

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VALiA X: Ceiling Mount Options

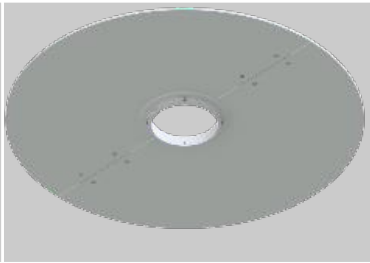
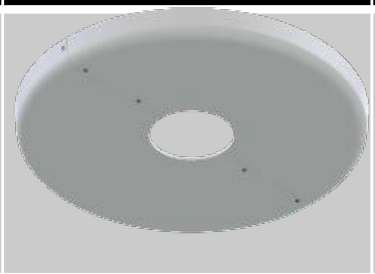
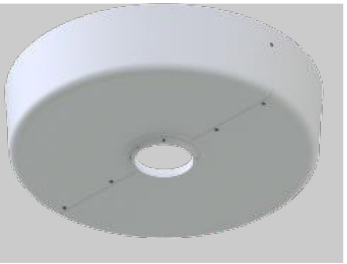
Slim	Small	Large	1900 mm	Triple	Rail
	 *270 mm hole distance	 *270 mm hole distance			
Single Interface Plate	Single and Tandem Interface Plate	Single and Tandem Interface Plate	Single and Tandem Interface Plate	Triple Interface Plate	Connection to Rail Carriage
270 mm bolt circle	270 mm bolt circle	270 mm bolt circle	270 mm bolt circle	270 mm bolt circle	91 mm bolt circle

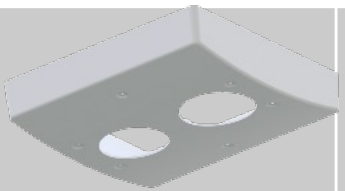
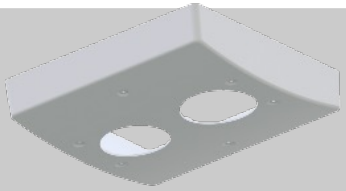
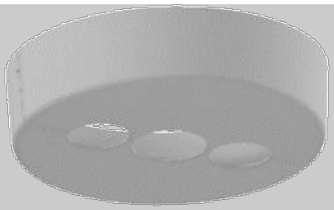
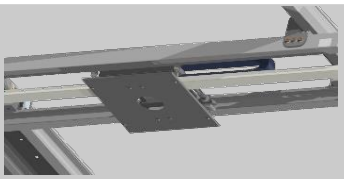
**TANDEM e.g. VALiA X + VALiA X → Small Heavy Duty Celing Kit ***TANDEM e.g. VALiA X + MediFamily → Large Heavy Duty Ceiling Kit

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VALiA X: Ceiling Cover Options

Small	Flat	Medium	Large
			
∅ 360 mm	∅ 600 mm	∅ 600 mm	∅ 600 mm
Height: 124 mm	Height: 4 mm	Height: 50 mm	Height: 150 mm

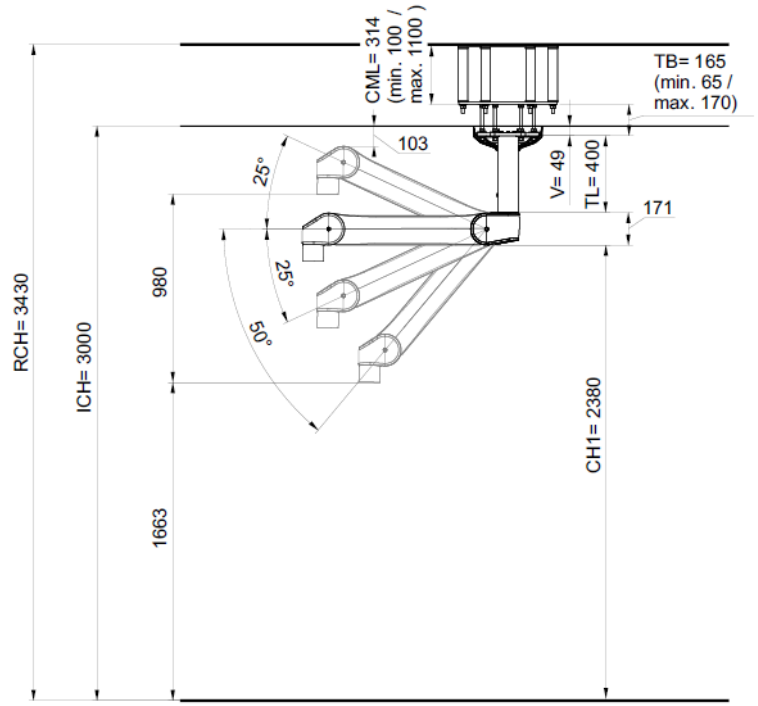
Dual	Dual	Triple	Rail
			
∅ 360 mm	∅ 600 mm	∅ 600 mm	∅ 600 mm
Height: 124 mm	Height: 4 mm	Height: 50 mm	Height: 150 mm

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Height Drawings

Spring arm solo

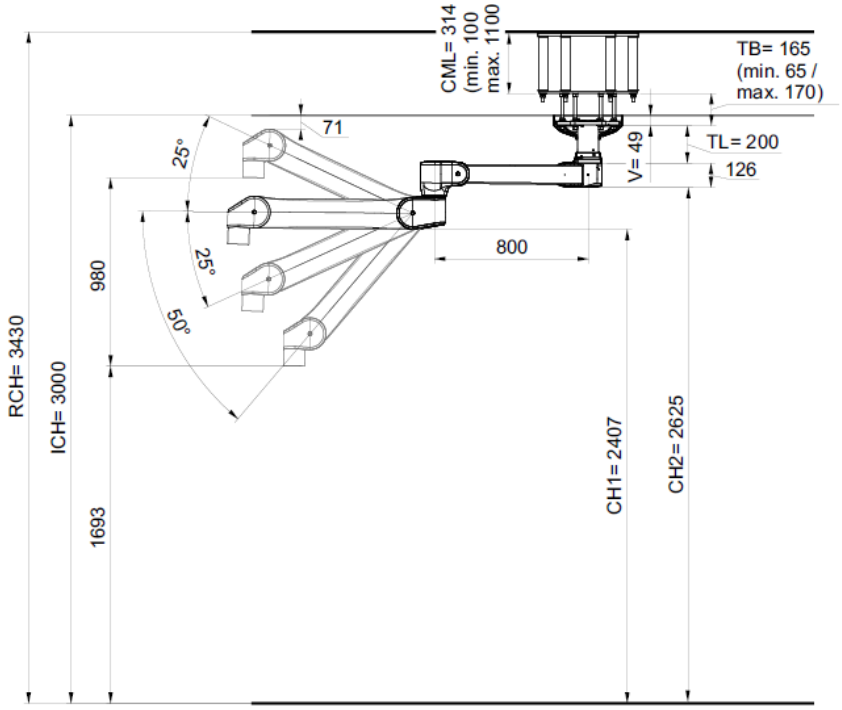


Abbreviations	
TL	Pipe length
RCH	Raw ceiling height
ICH	Intermediate ceiling height
CH1	Pass line height of the spring arm
V	Offset = Value by which the flange sits below the bottom edge of the intermediate ceiling
TB	Threaded bolt
CML	Ceiling mount length

Formulas	
Intermediate ceiling mounting	
TL	= ICH – V - CH1 – 171
TL	= RCH – CML – TB – CH1 – 171

All lengths (mm) and angles (degrees) are approximate values and subject to production-related tolerances.

Extension arm + spring arm



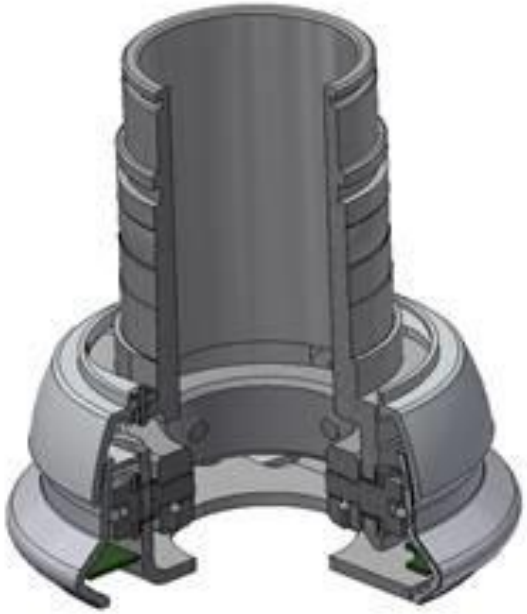
Abbreviations	
TL	Pipe length
RCH	Raw ceiling height
ICH	Intermediate ceiling height
CH1	Pass line height of the spring arm
CH2	Pass line height of the extension arm
V	Offset = Value by which the flange sits below the bottom edge of the intermediate ceiling
TB	Threaded bolt
CML	Ceiling mount length

Formulas	
Intermediate ceiling mounting	
TL	= ICH – V – CH2 – 126
TL	= RCH – CML – TB – CH2 – 126

All lengths (mm) and angles (degrees) are approximate values and subject to production-related tolerances.

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Optional cardanic adapter at spring arm front bearing



- For monitor carrier systems
- 10° swing in all directions
- Injection molded top cover in RAL 9010
- Ring made of transparent plastic below top cover → optional LEDs to be used as signal light (e.g. X-Ray in use light)
- Cable/ hose passage = 52 mm diameter

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Miscellaneous

Product life	12 years
Color options	RAL9010 (RAL9002 and RAL9016 on request)
Approved adaptions on the spring arm	CEMOR Slimline (1-fold, 2-fold, 3-fold, 4-fold, 6-fold, 8-fold, Large Screen)* CEMOR X Service Head M6* Service Head M20* *For the dead weight and the payload, refer to the installation instructions of the corresponding adaption.
Operating forces	Manual forces, horizontal ≦55N Manual forces, vertical spring arm MD60, MD90 ≦100N Manual forces, vertical spring arm MD110 ≦130N
Protectionclass/ type	Protection class in accordance with IEC 60601-1: I IP classification in accordance with IEC 60529: IP 20
European Medical Device Regulation (EU) 2017/745	I
Noise level	Sound energy: > 65dB(A) (EN ISO 3746) are not exceeded
Applicable standards, laws and directives	German medical device implementing act (Medizinprodukte-Durchführungsgesetz, MPDG) European Medical Device Regulation (EU) 2017/745 IEC 60601-1: Medical Electrical Equipment –Part 1: General Requirements for Basic Safetyand Essential Performance ANSI/AAMI ES 60601-1 CAN/CSA-C22.2 No. 60601-1
Approvals of the Standard equipment	Recognised NRTL component
EU conformity	The product complies with the European Medical Device Regulation (EU) 2017/745.

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