We care for every drop



INFUSION PUMP & SYRINGE PUMP







Pumps



A717V, A718V



Technical Data	Description	Remarks
Performance Data		
Applications	Intensive care, anesthesia, standard care, oncology, blood	Dose calculation
Dosing units	transfusion, parenteral nutrition, neonatal care g, mg, μg, ng, IU, mmol	Per hour, minute, kilogram, day
nfusion rate	g, mg, pg, ng, ro, mmor 0.1 – 1'200 ml/h 0.1 – 999.9 ml/1'000 – 9'999 ml	Steps of 0.1 ml/steps of 1.0 ml, modification without infusic interruption
nfusion volume nfusion time	1 min – 99 h 59 min	Steps of 0.1 ml/steps of 1.0 ml Steps of 1 min
Programming Automatic rate calculation Bolus administration Bolus rate Bolus volume Purging of the infusion line	Rate in ml/h, volume in ml, duration in h and min On the basis of volume and time Manually or automatically 0.1 – 1'200 ml/h 0.1 – 999 ml 0.1 – 1'200 ml/h	Rate in ml/h, volume in ml, infusion duration in h and min With/without dose limit, limits via ARGUS <i>medDB</i> Without infusion interruption Without infusion interruption
Accuracy	±5%	Under normal conditions according to IEC/EN 60601-2-24 With CODAN qualified administration sets
KVO (Keep Vein Open) rate Standby mode	0.1 – 10.0 ml/h 1 – 60 min	Depending on infusion rate; deactivation possible
History and Interface		
History and event log Nurse call RS-232 interface	Up to 1'000 events Connection to the central system	With time stamp 24 V/0.2 A, configurable pulse, potential-free Electrically isolated, connectable to PDMS (Patient Data Management System)
Operation		
Display type Display contents	Monochrome LCD, 98.4 x 26.2 mm, 240 x 64 pixel Infusion rate in units and ml/h, infused volume, target volume (VTBI), infusion time, remaining infusion time, battery capacity, pressure level, medication name and setup, bolus delivery and information menu etc.	Illuminated, adjustable brightness
Menu overview Menu configuration	Intuitive and configurable for specific applications By means of ARGUS <i>service</i> software/temporary settings by operator	Display text in national language, overview of infusion data Client-specific configuration possible
Infusion lines	CODAN standard- and cyto-sets and other validated sets A718V: CODAN IVIP® dedicated set	Tube materials: PVC, PVC-free, NoDEHP/display of the set name With anti-free-flow clamp Suitable for Infusion lines from other brands
Safety		
Pressure release Air bubble detection Drop detector Alarms, pre-alarms	Automatic pressure release after occlusion Individual air bubbles accumulated air bubbles 10 – 65 drops/ml Visual and audible signals for rapid detection	Configurable from $50-1000\mu l$ configurable from $100-2000\mu l$ within $8-64$ min In transport mode alarm is less sensitive With text explanation and symbols, large alarm window
Alarm types Key lock	Occlusion (up- and downstream), air bubbles, no drops and too many drops, end of infusion, standby, low battery, end of battery, maintenance due etc. Activation/deactivation via numerical code	
Pressure limit for occlusion DERS: Medication database (Dose Error Reduction System)	100 – 1'200 mbar (also in mmHg, kPa, cmH2O, Psi) On request	100 configurable steps On request
Power Supply		
Battery	1'800 mAh, NiMH	
Battery operation Battery charging time Mains power supply	6 hours at 25 ml/h 9 hours 100 - 240 V, 25 VA, 50 - 60 Hz	In standby mode
Product Specification		
Dimensions Housing Operating-/ medication temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure	190 x 160 x 130 mm (W x L x D) ASA high performance plastic 5 - 40°C/18 - 30°C 0 - 40°C - 20 - 60°C 20 - 90% without condensation Operation: 750 - 1 060 mbar	Without combination clamp
Weight with battery Maintenance	Storage and transport: 500 – 1 060 mbar 1.78 kg Safety standard check (SSC): every 24 months	Including battery and power supply unit Or after 10'000 operating hours
Compliance		
P protection class	IP22	Drop-protected in horizontal position up to ±15° inclination
Protection class Applied part type MDD classification Electrical safety	II CF IIb EN 60601-1, EN 60601-2-24	Electric shock protection according to IEC 61140 According to EN 60601-1
Electromagnetic compatibility Jsability Alarm systems SW lifecycle	EN 60601-1-2 EN 60601-1-6, EN 62366 EN 60601-1-8 EN 62304	
Certification CODAN ARGUS AG Device CE mark	ISO 13485, ISO 9001 CE 0123	According to directive 93/42/EEC
Accessories		
Docking stations	CODAN docking stations in 3 sizes for different	Version M: monitoring (PDMS link) + power supply
Attachment system Software	combinations Combination clamp ARGUS <i>service</i>	Version P : only power supply Suitable for pole- and rail systems Program for simple maintenance and configuration
Manufacturer		Service and configuration



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The decisive connection



GODAN Syringe Pump

A616S InCare

Fact Sheet

Version July 2017







	Description	Remarks
Performance Data		
	InCare, TCI	
Product variants Dosing units	g, mg, ug, ng, IU, mmol	Per hour, minute, day, kilogramme
nfusion rate	0.1 – 1500 ml/h	Steps of 0.1 ml/h, modification without infusion interruption
Infusion volume	0.1 – 999.9 ml / 1000 – 9999 ml	Steps of 0.1 ml / steps of 1.0 ml
Infusion time	1 min – 99 h 59 min	Steps of 1 min
Programming	Rate in ml/h, volume in ml, duration in h and min	
Automatic rate calculation Bolus administration	On the basis of volume and time Manual or automatic	
Bolus administration Bolus rate	0.1 – 1500 ml/h	
Bolus volume	0.1 – 1300 ml	Depending on syringe size
Purging of the infusion line	0.1 – 1500 ml/h	Depending on syringe size
Accuracy	±2% (at ≥ 1 ml/h)	According to IEC 60601-2-24
		With CODAN qualified syringes (list on request) ±5% (at ≥ 1 ml/h) with customer qualified syringes
Error volume	0.5 – 1.2 ml	Depending on the syringe
KVO (Keep Vein Open) rate	Off or 0.1 – 5.0 ml/h	Configurable
Alarm PUMP UNUSED	Off or 1 – 60 min	Time until the alarm is triggered
History and Interface		
History and event log	1000 events	
Nurse call	Connection to the central system	24 V / 0.2 A, configurable pulse, potential-free
RS-232 interface	Connection to a medical PC or PDMS	21 V 7 0.27 t, domingurable paled, petermar nee
Docking stations	Connection to docking stations	Via docking stations connection to Ethernet is possible
Operation		
•	Managharana I CD 00 4 v 00 0 mm 040 v 04 Divisi	A divertable beinghtness
Display type Menu overview	Monochrome LCD, 98.4 x 26.2 mm, 240 x 64 Pixel Intuitive and configurable for specific applications	Adjustable brightness Display text in national language, overview of infusion data
Display contents	Flow rate in units and ml/h, infused volume, target volume	Display text in flational language, over view of infusion data
,	(VTBI), infusion time, remaining infusion time, battery	
	capacity, pressure level, text and symbols for alarms and	
	pre-alarms, medication name and medication setup, bolus	
	delivery and information menu etc.	
Menu configuration	By means of ARGUS service software / temporary settings	Client-specific configuration possible
Syringos	by operator 10 ml, 20 ml, 30 ml, 50/60 ml	Automatic identification of CODAN ARGUS approved syringes
Syringes	Can use syringe from other brands	permanent display of the syringe name
	, ,	permanent display of the syninge name
Infusion modes	Standard operation: adjustable infusion rate, infusion	
	volume, infusion time Dose calculation : infusion based on supported dosing	
	units	
	TIVA (Total Intravenous Anesthesia): patient weight	Medication database is required
	(if applicable), induction dose (ug), induction time,	Medication database is required
	maintenance rate (ug/h)	
0-5-6-		
Safety		
Pressure release Alarms, pre-alarms	Automatic pressure release after occlusion	
Alarm types	Visual and audible signals for rapid detection Syringe position, empty syringe, pressure too high, empty	
Add III types	battery, syringe or battery almost empty, standby, limit	
	exceeded etc.	
DEFI proof	Protection against electrical shock from defibrillator	
Key lock	Activation / deactivation via numerical code	
		0, 1,0 1
Pressure limit for occlusion	200 – 1200 mbar ±200 mbar (CODAN qualified syringes)	Steps of 10 mbar
Pressure limit for occlusion DERS: Medication database	200 – 1200 mbar ±200 mbar (CODAN qualified syringes) On request	Steps of 10 mbar
Pressure limit for occlusion DERS: Medication database (Dose Error Reduction System)		Steps of 10 mbar
Pressure limit for occlusion DERS: Medication database		Steps of 10 mbar
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery	On request 1 800 mAh, NiMH	Maintenance-free
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation	On request 1 800 mAh, NiMH 9 hours at 5 ml/h	Maintenance-free With deactivated display backlight
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode	Maintenance-free
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply	On request 1 800 mAh, NiMH 9 hours at 5 ml/h	Maintenance-free With deactivated display backlight
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz	Maintenance-free With deactivated display backlight
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D)	Maintenance-free With deactivated display backlight At room temperature
Pressure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic	Maintenance-free With deactivated display backlight
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C	Maintenance-free With deactivated display backlight At room temperature
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic	Maintenance-free With deactivated display backlight At room temperature
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C	Maintenance-free With deactivated display backlight At room temperature
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 750 – 1060 mbar	Maintenance-free With deactivated display backlight At room temperature
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 750 – 1060 mbar	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 750 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg	Maintenance-free With deactivated display backlight At room temperature
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check)	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 750 – 1060 mbar	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 5torage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit
Pressure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 5 torage and transport: 500 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C 20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar Storage and transport: 500 – 1060 mbar Every 24 months or after 10000 operating hours	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Protection class Protection class Applied part type	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Applied part type MDD classification	1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Protection class Protection class Applied part type	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24,	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Protection class Applied part type MDD classification Electrical safety Electromagnetic compatibility	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-2 (Ed. 4)	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Applied part type MDD classification Electrical safety Electromagnetic compatibility Certification CODAN ARGUS AG	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 750 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-6, EN 62304 EN 60601-1-2 (Ed. 4) ISO 13485	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Applied part type MDD classification Electrical safety Electromagnetic compatibility Certification CODAN ARGUS AG	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-2 (Ed. 4)	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IIP protection class Protection class Applied part type MDD classification Electrical safety Electromagnetic compatibility Certification CODAN ARGUS AG Device CE mark	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 750 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-6, EN 62304 EN 60601-1-2 (Ed. 4) ISO 13485	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IIP protection class Protection class Applied part type MDD classification Electrical safety Electromagnetic compatibility Certification CODAN ARGUS AG Device CE mark Accessories	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1-(Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-6, EN 62304 EN 60601-1-2 (Ed. 4) ISO 13485 CE 0123	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140 According to EN 60601-1
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Protection class Applied part type MDD classification Electrical safety	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 750 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-6, EN 62304 EN 60601-1-2 (Ed. 4) ISO 13485	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140 According to EN 60601-1 Version M: monitoring (PDMS link) + power supply
Préssure limit for occlusion DERS: Medication database (Dose Error Reduction System) Power Supply Battery Battery operation Battery charging time Mains power supply Product Specification Dimensions Housing Operating temperature Temperature for storage Temperature for transport Relative humidity Atmospheric pressure Weight with battery SSC (safety standard check) Compliance IP protection class Protection class Applied part type MDD classification Electrical safety Electromagnetic compatibility Certification CODAN ARGUS AG Device CE mark Accessories	On request 1 800 mAh, NiMH 9 hours at 5 ml/h 5 hours (to 80%) in standby mode 110 – 240 V, 25 VA, 50 – 60 Hz 320 x 100 x 180 mm (W x L x D) ASA high performance plastic 5 – 40°C 0 – 40°C -20 – 60°C 20 – 90% non-condensing Operation: 750 – 1060 mbar Storage and transport: 500 – 1060 mbar 2.0 kg Every 24 months or after 10000 operating hours IP22 II CF IIb EN 60601-1 (Ed. 3.1), EN 60601-8, EN 60601-2-24, EN 60601-1-6, EN 62304 EN 60601-1-2 (Ed. 4) ISO 13485 CE 0123 ARGUS docking stations in 3 sizes for different	Maintenance-free With deactivated display backlight At room temperature Including clamp for pole fixation, expandable for rails Including power supply unit Drop-protected in horizontal position up to ±15° inclination Electric shock protection according to IEC 61140 According to EN 60601-1





GODAN Syringe Pump

A616S TCI

Fact Sheet

Version July 2017







Technical Data	Description	Remarks
Performance Data		
Product variants	InCare, TCI	
Dosing units	g, mg, ug, ng, IU, mmol	Per hour, minute, day, kilogramme
Infusion rate Infusion volume	0.1 – 1500 ml/h 0.1 – 999.9 ml / 1000 – 9999 ml	Steps of 0.1 ml/h, modification without infusion interruption Steps of 0.1 ml / steps of 1.0 ml
Infusion time	1 min – 99 h 59 min	Steps of 1 min
Programming	Rate in ml/h, volume in ml, duration in h and min On the basis of volume and time	
Automatic rate calculation Bolus administration	Manual or automatic	
Bolus rate	0.1 – 1500 ml/h	
Bolus volume Purging of the infusion line	0.1 – 50 ml 0.1 – 1500 ml/h	Depending on syringe size Depending on syringe size
Accuracy	±2% (at ≥ 1 ml/h)	According to IEC 60601-2-24
		With CODAN qualified syringes (list on request) ±5% (at ≥ 1 ml/h) with customer qualified syringes
Error volume	0.5 – 1.2 ml	Depending on the syringe
KVO (Keep Vein Open) rate	Off or 0.1 – 5.0 ml/h	Configurable
Alarm PUMP UNUSED	Off or 1 – 60 min	Time until the alarm is triggered
History and Interface	4000	
History and event log Nurse call	1000 events Connection to the central system	24 V / 0.2 A, configurable pulse, potential-free
RS-232 interface	Connection to a medical PC or PDMS	
Docking stations	Connection to docking stations	Via docking stations connection to Ethernet is possible
Operation		
Display type	Monochrome LCD, 98.4 x 26.2 mm, 240 x 64 Pixel	Adjustable brightness
Menu overview Display contents	Intuitive and configurable for specific applications Flow rate in units and ml/h, infused volume, target volume	Display text in national language, overview of infusion data
., .,	(VTBI), infusion time, remaining infusion time, battery	
	capacity, pressure level, text and symbols for alarms and	
	pre-alarms, medication name and medication setup, bolus delivery and information menu etc.	
Menu configuration	By means of ARGUS <i>service</i> software / temporary settings	Client-specific configuration possible
O. win a a a	by operator	A. A. a. a. dia ida differentia a fi CODANI ADOLIO anno and a min
Syringes	10 ml, 20 ml, 30 ml, 50/60 ml Can use syringe from other brands	Automatic identification of CODAN ARGUS approved syringes permanent display of the syringe name
Infusion modes	, ,	permanent display of the syninge name
musion modes	Standard operation: adjustable infusion rate, infusion volume, infusion time	
	Dose calculation: infusion based on supported dosing	
	units	Management and at a few and the control of the cont
	TIVA (Total Intravenous Anesthesia): patient weight (if applicable), induction dose (ug), induction time,	Medication database is required
	maintenance rate (ug/h)	
	TCI (Target Controlled Infusion): Minto model for	Available in product variant CODAN A616S TCI
	Remifentanil, Schnider model for Propofol; patient data: gender, age, height, weight	
Safety	3, 3.,	
Pressure release	Automatic pressure release after occlusion	
Alarms, pre-alarms	Visual and audible signals for rapid detection	
Alarm types	Syringe position, empty syringe, pressure too high, empty battery, syringe or battery almost empty, standby, limit	
	exceeded etc.	
DEFI proof	Protection against electrical shock from defibrillator	
Key lock Pressure limit for occlusion	Activation / deactivation via numerical code 200 – 1 200 mbar ±200 mbar (CODAN qualified syringes)	Steps of 10 mbar
DERS: Medication database	On request	0.00000.10111001
(Dose Error Reduction System)		
Power Supply		
Battery	1 800 mAh, NiMH	Maintenance-free
Battery operation Battery charging time	9 hours at 5 ml/h 5 hours (to 80%) in standby mode	With deactivated display backlight At room temperature
Mains power supply	110 – 240 V, 25 VA, 50 – 60 Hz	7 to 100 m to mportaturo
Product Specification		
Dimensions	320 x 100 x 180 mm (W x L x D)	
Housing	ASA high performance plastic	Including clamp for pole fixation, expandable for rails
Operating temperature Temperature for storage	5 – 40°C 0 – 40°C	
Temperature for transport	-20 – 60°C	
Relative humidity	20 – 90% non-condensing	
Atmospheric pressure	Operation: 750 – 1060 mbar Storage and transport: 500 – 1060 mbar	
Weight with battery	2.0 kg	Including power supply unit
SSC (safety standard check)	Every 24 months or after 10000 operating hours	
Compliance		
IP protection class	IP22	Drop-protected in horizontal position up to ±15° inclination
Protection class Applied part type	II CF	Electric shock protection according to IEC 61140 According to EN 60601-1
MDD classification	IIb	
Electrical safety	EN 60601-1 (Ed. 3.1) , EN 60601-8, EN 60601-2-24,	
Electromagnetic compatibility	EN 60601-1-6, EN 62304 EN 60601-1-2 (Ed. 4)	
Certification CODAN ARGUS AG	ISO 13485	
Device CE mark	CE 0123	
Accessories		
Docking stations	ARGUS docking stations in 3 sizes for different	Version M: monitoring (PDMS link) + power supply
Attachment system	combinations Combination clamp for pole- and rail systems	Version P: power supply
Software	ARGUS <i>service</i>	program for update, maintenance and configuration
Manufacturer		-
CODAN APRILS AG		



We care for every drop

