

PFA Rod Heaters GALMAFORM®



The PFA rod heaters GALMAFORM are electric heaters for direct heat transfer designed for the use in plants and tanks with a minimum physical size. They have excellent resistance to aggressive process liquids. The very high chemical resistance is achieved by a special coating with PFA (perfluoroalkoxy-polymer).

The fluoropolymer coating comprises a two-layered structure.

The inner black PFA compound layer of the rod heaters GALMAFORM increases the thermal conductivity by enhancing the heat transfer.

The surface layer made of transparent fluoropolymer prevents encrustation and fouling for effortless cleaning and easy maintenance.

The rod heaters GALMAFORM can be used to heat autocatalytic (electroless) electrolytes, since they are electrically non-conductive and therefore metal reduction is prevented.

The individual shape of the rods allows for a variety of installation options. As the contact box and the cable can also be immersed in the process liquid, you can adjust the maximum immersion depth to your specific requirements. The use of high-quality materials guarantees a long operating life-time with optimum reliability and failure-free operation.



Construction

The rod heaters are based on a PFA-coated stainless steel tubular heater with an electrical connection at one end. The contact box and the PTFE cable are welded together with a gas-tight seam to allow for complete immersion.

The heated length of the rod (minimum immersion depth) is indicated by a permanent ring-shaped marker. The rod is not heated above this mark.

Even in applications where the liquid level is subject to abrupt or drastic rise or fall the heated length of the rod must always be immersed!

The distance pieces AW 12 set the necessary distance between the rod heater and the wall of the tank. The support UH is designed for secure mounting of the rod heater on the edge of the tank.



01.2018 en



PFA Rod Heaters GALMAFORM®



Due to the individual shape of the rod heaters different types of installation are possible. The various bending shapes of the rods are individually planned and implemented for you. Alternatively, you can bend the rods to the desired shape yourself, matching them to the installation conditions.

The available space can be optimally used by means of the various installation possibilities:

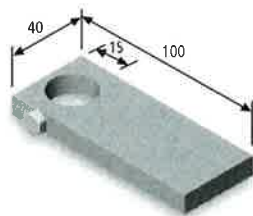
- on the tank wall
- on the floor of the tank
- hanging freely in the tank

Electrical safety

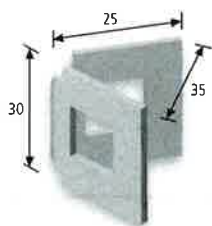
In accordance with EN 60519 - 1/2, the heaters are classified as devices of protection class I. All metal parts are connected to the neutral conductor. The connection cable of the rod heaters GALMAFORM additionally contains a bare earth cable. If used together with an earth leakage circuit breaker (ELCB), the maximum possible electrical safety is ensured.



PFA rod heaters GALMAFORM bear the VDE test mark



Support UH, material PVDF



Distance piece AW 12, material PTFE, pure white

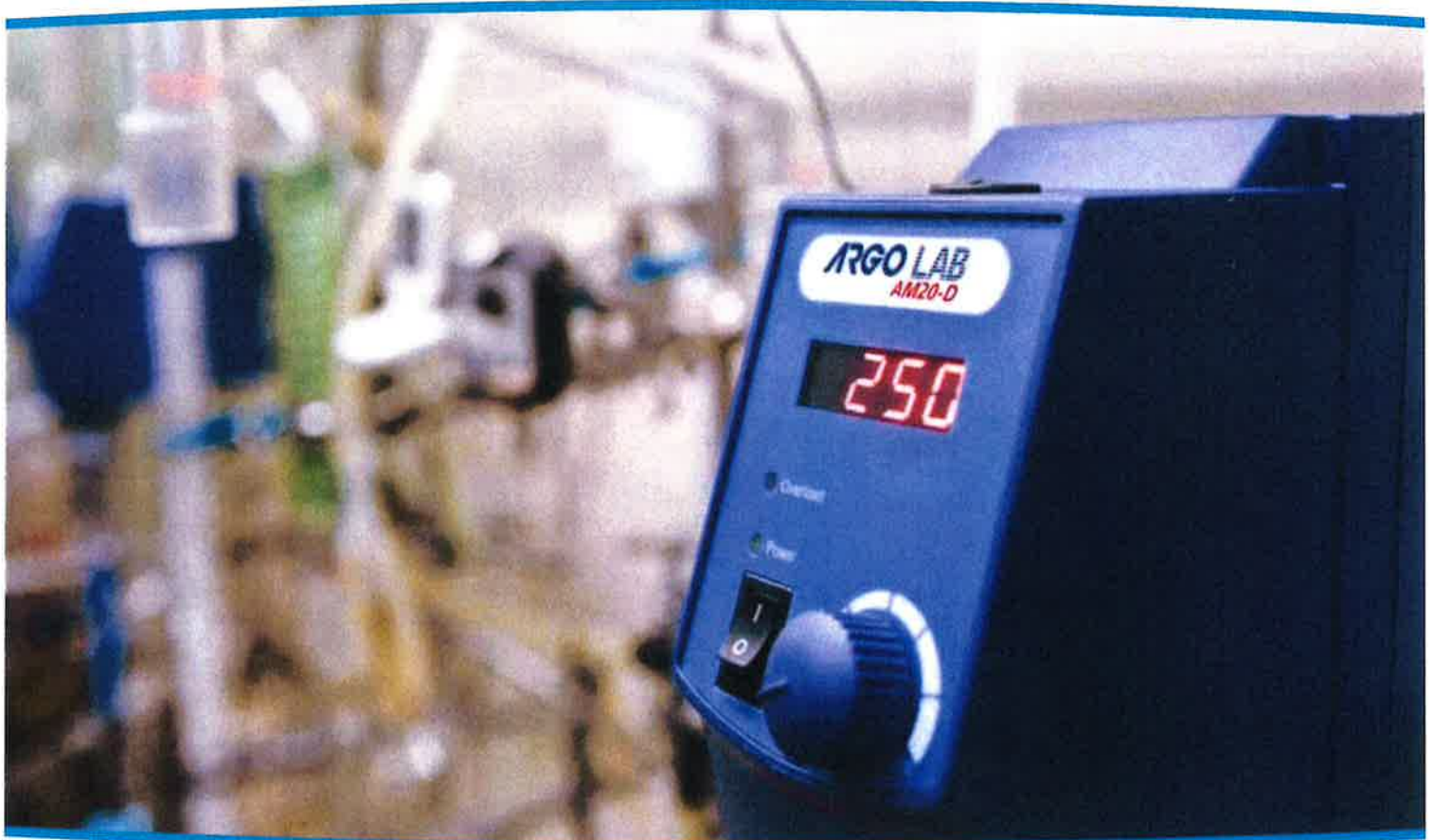
Technical data

Rod coating
Electrical conductivity of coating
Rated power
Surface loading
Rated voltage
Nominal length
Heated length
Cable length
Rod diameter
Minimum bending radius

Accessories
Support
Distance piece

	U-FG 25200	U-FG 25200/9	U-FG 14090
	PFA-Compound	PFA-Compound	PFA-Compound
	no	no	no
	2.000W	2.000W	900W
	2,4W / cm ²	2,4W / cm ²	2,2W / cm ²
	230V ~	230V ~	230V ~
	2.500 mm	2.500 mm	1.350 mm
	2.350 mm	2.350 mm	1.200 mm
	2 m	6 m	2 m
	∅ 12 mm	∅ 12 mm	∅ 12 mm
	30 mm	30 mm	30 mm
	UH	UH	UH
	AW12	AW12	AW12

Overhead stirrers



ARGO LAB



We are pleased to introduce the new line of scientific instrumentation **ARGO LAB**. All these instruments have passed rigorous tests of quality and reliability that Giorgio Bormac applies on each new product.

The ISO 9001 certified manufacturer based in P.R.C., has agreed to make any modifications and improvements required by us.

With these premises we decided to use our brand: **ARGO LAB**

Argo is the name of our dog, an half-breed black Labrador, who, with his strength and loyalty gladdens our days in the office and at home.

For this reason we want these instruments become your faithful companions of the laboratory and reliable over time.



AM20-D



AM40-D PRO

Overhead stirrers ArgoLab AM40-D PRO and AM20-D



Display AM20-D



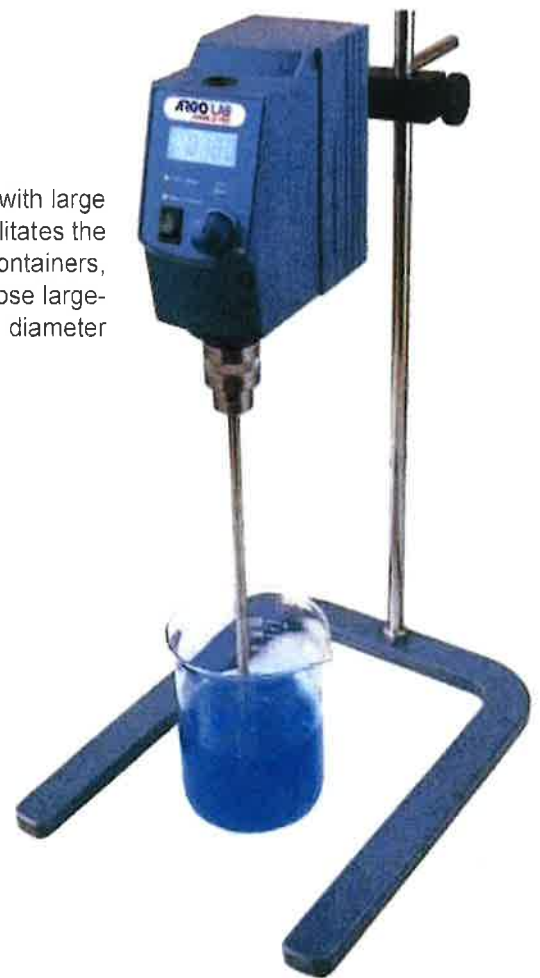
Display AM40-D PRO

- Display for instant reading of speed and torque
- Accurate control of the stirring speed
- Control of the resistance load with automatic adjustment of the speed (AM40-D PRO)
- A protection system inhibits the stirrer in case of excessive stress due to continuous overload (AM40 D-PRO) (AM40-D PRO)
- Adjustable safety circuit that automatically stops the motor in case of overheating to ensure extreme safety.



Higher passage hole for stirring shaft

Strong support with large opening that facilitates the placement of containers, including those large-diameter



Technical data	AM40-D PRO	AM20-D
Max stirring quantity (H ₂ O)	40 liters	20 liters
Control of the torque	Yes	-
Input motor power	120 W	60 W
Output motor power	100 W	50 W
Stirring speed	50... 2.200 rpm	50... 2.200 rpm
Stirring speed accuracy	±3 rpm	±3 rpm
Speed display	LCD Display	LED Display
Display resolution	1 rpm	1 rpm
Max torque	60 Ncm	40 Ncm
Display torque	LCD Display	-
Overload protection	Alarm LED, auto-stop	Alarm LED, auto-stop
Motor protection	Alarm LED, auto-stop	-
Max viscosity [mPa.s]	50.000 mPa.s (*)	10.000 mPa.s (*)
Opening of the drill chuck	0,5... 10 mm	0,5... 10 mm
Shaft dimensions (Ø x H)	14 x 220 mm	14 x 220 mm
Dimensions (L x A x P)	83 x 220 x 186 mm	83 x 220 x 186 mm
Weight	2,4 kg	2,4 kg
Voltage - Frequency	220V - 50/60Hz	220V - 50/60Hz
Power consumption	130 W	70 W
IP protection class (acc. to DIN EN60529)	IP42	IP42
Working temperature	5... 40 °C	5... 40 °C
Working humidity max	80 %	80 %
Part number	22005043	22005013

(*) mPa · s = 1 centipoise

NOTE: All the instruments are supplied with chuck drill and its key



Accessories



Universal stand for overhead stirrers

It's suitable for both models Argolab AM20-D and AM40-D PRO, supplied complete of fixing system. Painted cast base and stainless steel shaft. Thanks to the particular form and strongness avoids the necessity of counterweights. Moreover the large opening of the base, mm 200, makes easy the stirring operations also with large diameter flasks.

Base mm 275 x 350, shaft length mm 80 and diameter mm 16

Weight kg 5

Part number 22005153

Stirring shaft

Choose of the correct stirring shaft

The choose of the correct stirring shaft should be done considering several parameters:

- the power of the overhead stirrer
- the volume of the sample you have to stir
- the viscosity.

Stirring shaft with floating blades - Type 1

Characteristics: The two blades opening to the increase of the speed, generate an axial flow from top to the bottom of vessel.

Use: This shaft is particularly indicated for the stirring in narrow neck vessels, for example flasks.

Part number 22005193



Type 1

Stirring shaft with fixed blade - Type 2

Characteristics: It generates an axial flow from top to the bottom of vessel.

Use: It used at medium-high speed to swirl light solids, for flocculation, to mix thickening agents, to stir sludge, etc.

Part number 22005173



Type 2

Stirring shaft with propeller - Type 3

Characteristics: This is the standard stirrer shaft. It generates an axial flow in the vessel, with suction of the substance from bottom to the top and localized appearance of shear forces.

Use: It used at medium-high speed to swirl light solids, for flocculation, to mix thickening agents, to stir sludge, etc.

Part number 22005163



Type 3

Stirring shaft with 3 holes blade - Type 4

Characteristics: It generates a tangential flow with reduced turbulence and gentle mixing of the sample.

Use: It used at low speed when it is necessary a good exchange of hot of the products that you hvae to mix.

Part number 22005183



Type 4

Description	N°of blades	Shaft dimensions		Speed range	Viscosity
		Ø mm	Lunghezza mm		
Type 1 floating blades, inox	2	8	400	M-A	BB-B
Type 2 fixed blade, inox	1	8	400	M-A	BB-B-M
Type 3 with propeller, inox	4	8	400	M-A	BB-B-M
Type 4 3 holes blade, inox	1	8	400	B-M	B-M

Viscosity	Substance
1	Water
5	Milk
10	Kerosene
100	Motor oil
1000	Castor oil, Glycerine
7000	Refined honey
25000	Chocolate syrup
50000	Ketchup
100000	Molasses



GUARANTEED BY:

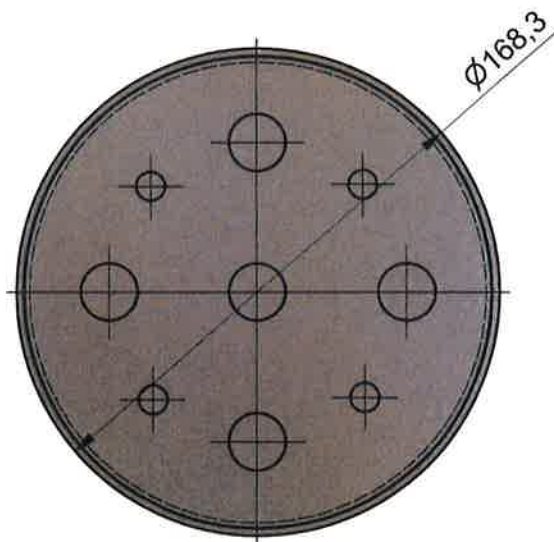
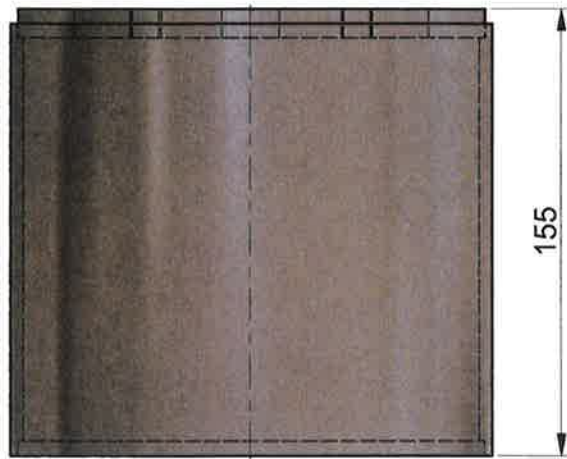
GIORGIO BORMAC

DISTRIBUTED BY:



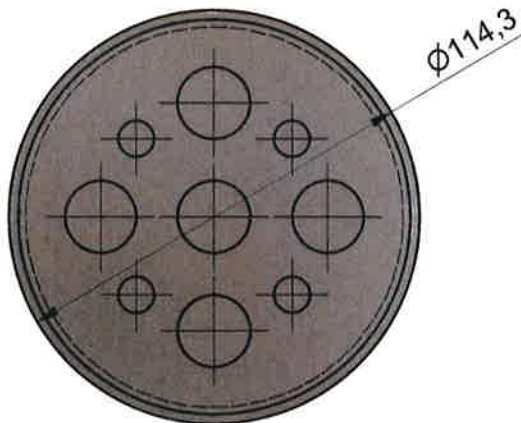
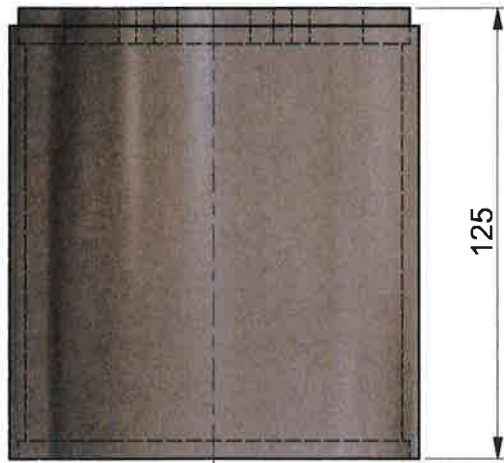
ISO 9001 Certified manufacturer






Tabuľka	
Názov	Parameter
typ	3 litrový reaktor
objem	3 litre
rozmer	Ø 168,3 x 4.5 -155
materiál	nehodzavejúca oceľ
akosť	1,4571
hmotnosť	5,05 kg

						Počet kusov:	1
Index: Zmena:			Navrhov:	Preskúšal:	Schválil:	Dátum:	Netolerované rozmery podľa ISO 2768 m,K
Materiál:		Atest:		Mierka:			
Rozmer: Zostava		Polotovár:		Hmotnosť: 5,054 kg			
Techn.dod.podm.mat.:		Dátum vytvorenia: 19. 6. 2018		Poznámka:			
Vypracoval:		Dátum úpravy:		Číslo kusovníka:		Nadradená zostava	Pozícia
Preskúšal:		Projekt: Názov projektu					
Schválil: Ing. Boris Bednár						List: 1 / 1	
Amec Foster Wheeler Nuclear Slovakia s.r.o., Piešťanská 3, 917 01 Trnava							
amec foster wheeler		3 l reaktor		Číslo výkresu:		Porad.č.v.	
Názov:							



Tabuľka	
Názov	Parameter
typ	1 litrový reaktor
objem	1 liter
rozmer	Ø 114,3 x 4.5 -125
materiál	nehrdzavejúca oceľ
akosť	1,4571
hmotnosť	2,4 kg

						Počet kusov:	1	
Index: Zmena:	Navrhov:		Preskúšal:	Schválil:	Dátum:	Netolerované rozmery podľa ISO 2768 m,K		
Materiál:	Atest:		Mierka:					
Rozmer: Zostava	Polotovár:							
Techn.dod.podm.mat.:			Hmotnosť: 2,413 kg					
Vypracoval:		Dátum vytvorenia: 19. 6. 2018	Poznámka:					
Preskúšal:		Dátum úpravy:	Číslo kusovníka:			Nadradená zostava	Pozícia	
Schválil: Ing. Boris Bednár		Projekt: Názov projektu				List: 1 / 1		
 Amec Foster Wheeler Nuclear Slovakia s.r.o., Piešťanská 3, 917 01 Trnava						1 l reaktor		
Názov:			Číslo výkresu:			Porad.č.v.		



RALEX® MEMBRANE AM(H)-PES

DESCRIPTION:

Heterogeneous anion-exchange membrane for electrodialysis, electrodeionization and membrane electrolysis.



Basic material specification			
Ion-exchange group		R - (CH ₃) ₄ N ⁺	quaternary ammonium
Ionic form – counter ion		Cl	chloride
Basic binder on base		PE	polyethylene
Fitting fabrics		PES	polyester
Mechanical properties			
Thickness of dry membrane		t _d [mm]	< 0.45
Thickness of swelled membrane		t _s [mm]	< 0.75
Swelled differences Δ (in demi-water)	thickness	Δ t [%]	< 60
	length	Δ l [%]	< 3
	width	Δ w [%]	< 4
	weight	Δ m [%]	< 65
Hydrodynamic permeability for water	Δ P = 1 bar	[l/h.m ²]	0
Electrochemical properties			
Resistance in 0.5 M NaCl (measured under DC current)	surface	R _s [Ω.cm ²]	< 7.5
	specific	R _{sp} [Ω.cm]	< 120
Transport number	0.5/0.1M KCl	t ⁺	> 0.95
Permselectivity	0.5/0.1M KCl	P _{STAT} [%]	> 90
Other properties			
Good thermal resistance: outside membrane stack (regeneration, sanitation) – up to 1 hour 90 °C, more than 1 hour 65 °C, inside membrane stack under DC current 40 °C, for a short time 45 °C.			
Resistance against aggressive chemicals and fouling components.			
Long-term stability at pH 0–10, except strong oxidizing agents.			
Possibility of a use of alkali up to pH 12 for a short time for regeneration.			
High resistance against some industrial membrane poisons.			
Long life cycle.			

CERTIFICATES:

Membrane production is certified in compliance with **CSN EN ISO 9001:2009** and **CSN EN ISO 14001:2005**.
AMH-PES have Sanitary and Epidemiology Certificate for whey and drinking water.

MEGA a.s., Division of Membrane Processes, Pod Vinicí 87, 471 27 Stráž pod Ralskem, Czech Republic
Phone: +420 487 888 300, Fax: +420 487 888 302, E-mail: sales@mega.cz, Web: www.ralex.eu, www.mega.cz



TECHNOLOGICAL PROCEDURE FOR THE SWELLING OF RALEX® MEMBRANES



INTRODUCTION:

The goal of swelling of ion-exchange heterogeneous membranes RALEX® is to bring them to the "working state". During the process of swelling the physical, mechanical and electrochemical properties of the membrane are changing and the membrane becomes ion-conductive. Besides, there are changes of dimensions and volume of the originally dry membrane format. The end of swelling is marked by reaching a steady state with no further changes of the properties of the membrane.

The membranes RALEX® can routinely function in wide pH range, in temperatures from 10°C to 50°C, in environment without any oxidants and membrane poisons. Suitability of use of the membranes RALEX® must always be consulted with the producer!

STANDARD SWELLING:

Standard swelling of the membranes RALEX® takes place in demineralized water (or at least in drinking water, after consulting the producer) in temperatures from 25°C to 45°C for no less than 48 hours. The dry membrane is put into water of the prescribed quality or swelling solution and swells for the required period of time. During the process of swelling it is necessary to check if the membrane is completely immersed and to eliminate air bubbles from the surface of the membrane. The membranes must not come to a contact with surface-active substances (detergents), organic substances, oxidants and other so-called membrane poisons that can contaminate the membrane material irreversibly.

SPECIAL SWELLING WITH CHANGE OF THE ORIGINAL ION-EXCHANGE MEMBRANE:

Special swelling takes place in a proper swelling solution with subsequent conditioning and equilibration of the membranes. Procedures can differ with regards to specific use of the membranes and must be consulted with the producer.

HANDLING:

Any handling with the membranes RALEX® is recommended in the swelled state in which they are flexible and less prone to deformation. It is also necessary to minimize their removing from the swelling solution so that they do not dry out which causes dimensional changes that can lead to considerable defects in subsequent size adaptation of the membranes. The membranes RALEX® can exceptionally dry out and swell again but this procedure is not recommended by the producer. In the swelled state, the membranes RALEX® are well flexible and shapeable; in the dry state, on the contrary, they are fragile and must not be deformed in any way. It should be pointed out that it is necessary to prevent any damage to the membranes by careless handling (ruptures, breaks, tears etc.).

SUMMARY:

For use in the electro-membrane processes, the membranes RALEX® must be in the swelled "working state". Subsequent operations with the membranes, especially their installation to technology, are much impacted by the perfection of swelling. Therefore it is necessary to pay undivided attention to the entire process of swelling.



RALEX® MEMBRANE CM(H)-PES

DESCRIPTION:

Heterogeneous cation-exchange membrane for electrodialysis, electrodeionization and membrane electrolysis.



Basic material specification			
Ion-exchange group		R - SO ₃	sulphon
Ionic form – counter ion		Na	sodium
Basic binder on base		PE	polyethylene
Fitting fabrics		PES	polyester
Mechanical properties			
Thickness of dry membrane		t _d [mm]	< 0.45
Thickness of swelled membrane		t _w [mm]	< 0.7
Swelled differences Δ (in demi-water)	thickness	Δ t _d [%]	< 65
	length	Δ l [%]	< 3
	width	Δ w [%]	< 4
	weight	Δ m [%]	< 65
Hydrodynamic permeability for water	Δ P = 1 bar	[l/h.m ²]	0
Electrochemical properties			
Resistance in 0.5 M NaCl (measured under DC current)	surface	R _s [Ω.cm ²]	< 8
	specific	R _s [Ω.cm]	< 120
Transport number	0.5/0.1M KCl	t ⁺	> 0.95
Permselectivity	0.5/0.1M KCl	P _{stat} [%]	> 90
Other properties			
Good thermal resistance: outside membrane stack (regeneration, sanitation) – up to 1 hour 90 °C, more than 1 hour 65 °C, inside membrane stack under DC current 40 °C, for a short time 45 °C.			
Resistance against aggressive chemicals and fouling components.			
Long-term stability at pH 0–10, except strong oxidizing agents.			
Possibility of a use of alkali up to pH 12 for a short time for regeneration.			
High resistance against some industrial membrane poisons.			
Long life cycle.			

CERTIFICATES:

Membrane production is certified in compliance with **CSN EN ISO 9001:2009** and **CSN EN ISO 14001:2005**.
CMH-PES have Sanitary and Epidemiology Certificate for whey and drinking water.



TECHNOLOGICAL PROCEDURE FOR THE SWELLING OF RALEX® MEMBRANES

ralex[®]
MEMBRANES

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SPECIAL SWELLING WITH CHANGE OF THE ORIGINAL ION-EXCHANGE MEMBRANE:

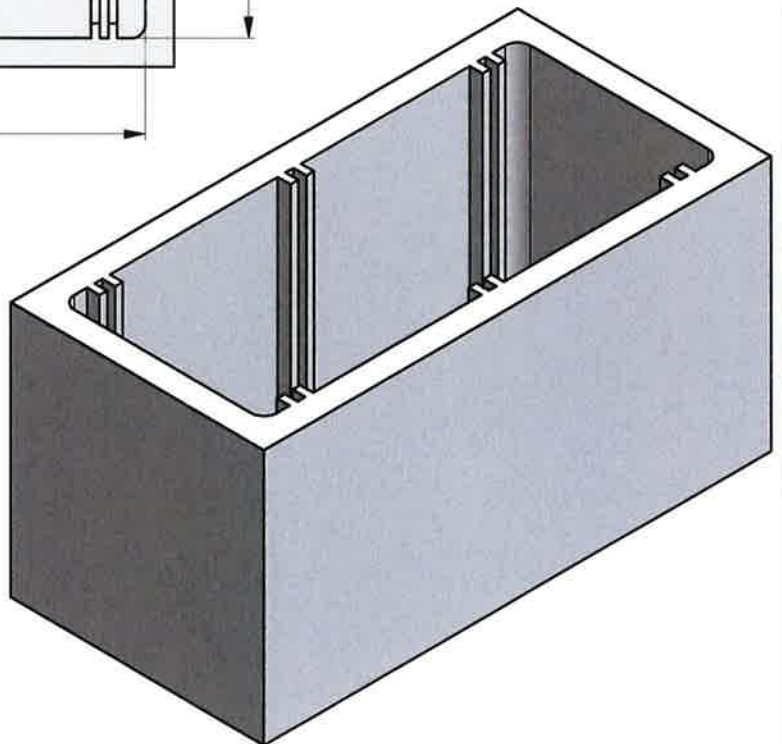
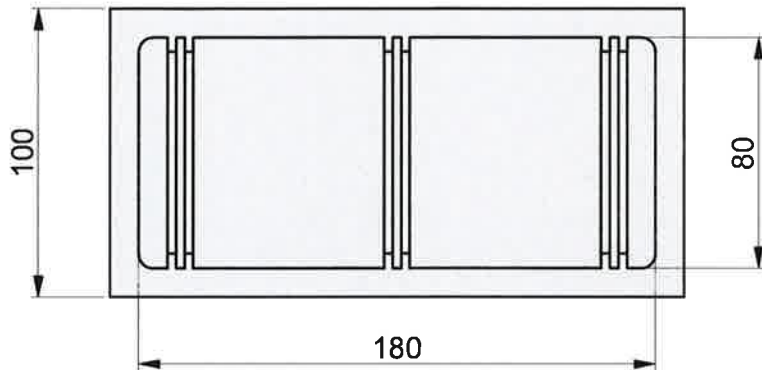
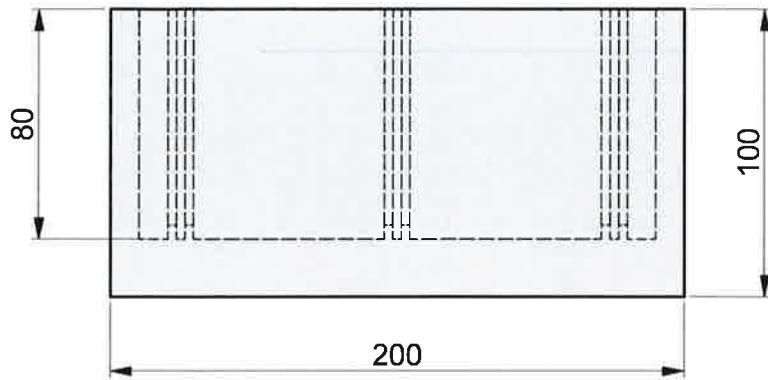
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SUMMARY:

For use in the electro-membrane processes, the membranes RALEX® must be in the swelled "working state". Subsequent operations with the membranes, especially their installation to technology, are much impacted by the perfection of swelling. Therefore it is necessary to pay undivided attention to the entire process of swelling.



Tabuľka	
Názov	Parameter
typ	elektrochemická vaňa
objem	1 liter
rozmer	200 x 100 x 100 mm
materiál	teflon (EPDM)
hmotnosť	0,96 kg

						Počet kusov:	1
Index: Zmena:			Navrhov:	Preskúšal:	Schválil:	Dátum:	Netolerované rozmery podľa ISO 2768 m,K
Materiál: Teflon		Atest: STN EN 10204 3.1B		Mierka:			
Rozmer:		Polotovár:		Hmotnosť: 0,984 kg			
Techn.dod.podm.mat.: EN 10088-2		Dátum vytvorenia: 19. 6. 2018		Poznámka:		25	
Vypracoval:		Dátum úpravy:		Číslo kusovníka:		Nadradená zostava	
Preskúšal:		Projekt:		Číslo kusovníka:		Pozícia	
Schválil: Ing. Boris Bednár		Amec Foster Wheeler Nuclear Slovakia s.r.o., Piešťanská 3, 917 01 Trnava				List: 1 / 1	
		<p style="text-align: center;">elektrochemická vaňa</p>				Číslo výkresu:	
Názov:		Číslo výkresu:				Porad.č.v.	

Verderair

VA-P08



VA-P08

VERDERAIR

Technical data VA-P08

Nominal port size	Code No.6	TN	1/4" NPT[f]
Air inlet			R 1/8"
Weight [kg]		VA-P08EE	1,1
		VA-P08GG	1,1
		VA-P08TT	2,5
		VA-P08UU	2,3
Max. operation pressure [Bar]			7
Max. operating temperature [°C]		VA-P08EE or VA-P08GG	70
		VA-P08TT or VA-P08UU	100
Max. size pumpable solids [mm]	Code No.3	EP or TF or SS	2,2
		CV	/
Max. Suction lift dry [mWc]	Code No.3	EP or TF or SS	0,5
		CV	1
Max. Suction lift wet [mWc]	Code No.3	EP or TF or SS	9
		CV	9

CODE VA-P08 No.1 No.2 No.3 No.4 No.5 No.6

No.1 Housing & Center Section/ No.2 Valve seat

- EE EE = Polyethylene (PE UHMW)
- ⊕ GG GG = Conductive Polyethylene (PE UHMW)
- TT TT = PTFE
- ⊕ UU UU = Conductive PTFE

No.3 Valve balls

- EP = EPDM
- TF = PTFE
- SS = SS 316
- CV = Cylinder Valve

No.4 Diaphragms

- EO = EPDM Overmolded
- TO = PTFE Overmolded

No.5 Fluid connections

- TN = NPT Threated female

No.6 Options

- OO = Standard, no option
- RE = Remote
- PD = Ready for Pulsation Dampener
- VS = Vertical Suction

⊕ II 2GD c II B Tx

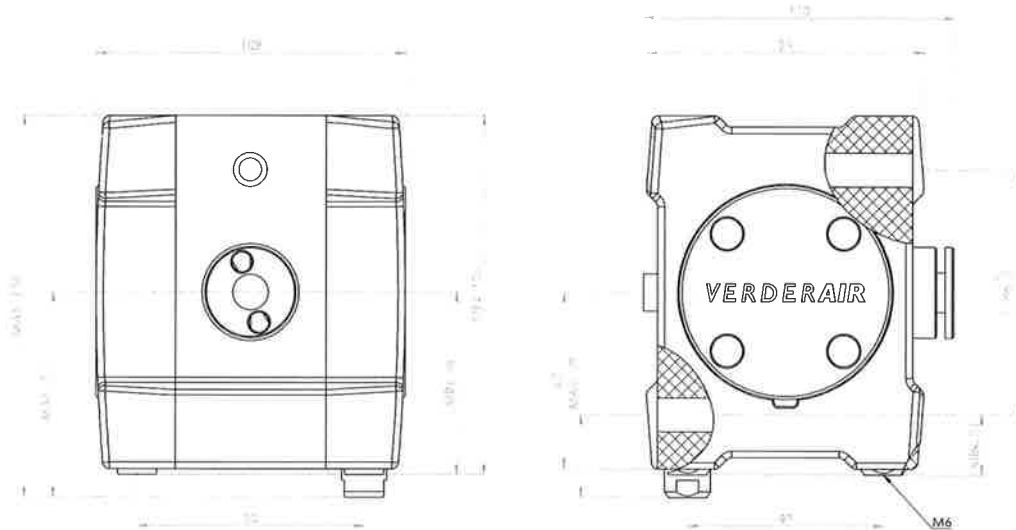
EXAMPLE PUMP TYPE

EXAMPLE : VA-P08EE EE TF TO TN OO


Verderair VA-P08

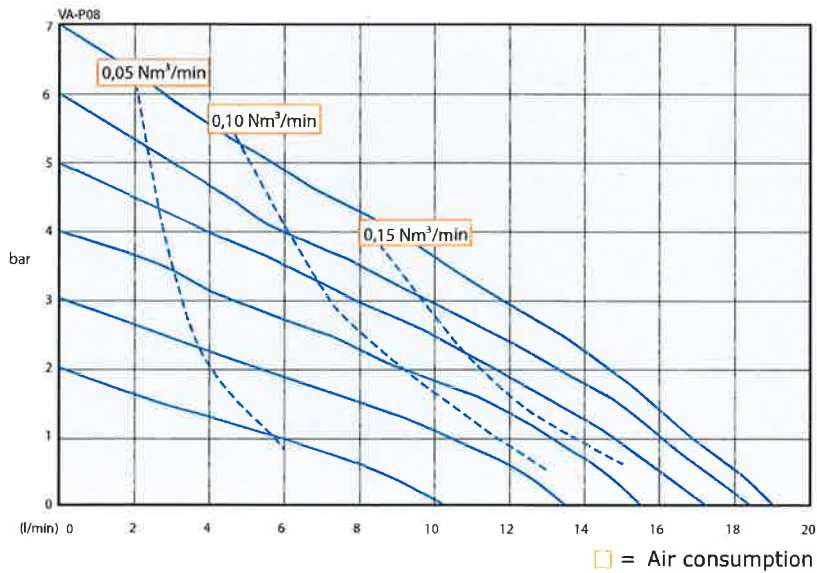


VA-P08



Dimensions in millimeters

Measured with water of 20°C



Verderair VA-P25



VA-P25

VERDERAIR

Technical data VA-P25

Nominal port size	Code No.6	TN	1" NPT[f]
		FD	DN25
		FA	1"
		FJ	1"
Air inlet			R 1/4"
Weight [kg]		VA-P25EE	15
		VA-P25GG	14
		VA-P25TT	34
		VA-P25UU	32
Max. operation pressure [Bar]			7
Max. operating temperature [°C]		VA-P25EE or VA-P25GG	70
		VA-P25TT or VA-P25UU	120
Max. size pumpable solids [mm]	Code No.3	EP or TF or SS	6
		CV	/
Max. Suction lift dry [mWc]	Code No.3	EP or TF or SS	3
		CV	4
Max. Suction lift wet [mWc]	Code No.3	EP or TF or SS	9,5
		CV	9,5

CODE VA-P40 No.1 No.2 No.3 No.4 No.5 No.6

No.1 Housing & Center Section/ No.2 Valve seat

- EE EE = Polyethylene (PE UHMW)
- ⊕ GG GG = Conductive Polyethylene (PE UHMW)
- TT TT = PTFE
- ⊕ UU UU = Conductive PTFE

No.2 Valve seat

- EE = Polyethylene (PE UHMW)
- ⊕ GG = Conductive Polyethylene (PE UHMW)
- TT = PTFE
- ⊕ UU = Conductive PTFE

No.3 Valve balls

- EP = EPDM
- TF = PTFE
- CV = Cylinder Valve

No.4 Diaphragms

- EO = EPDM Overmolded
- TO = PTFE Overmolded

No.5 Fluid connections

- TN = NPT Threaded female
- FD = Flanged DIN
- FA = Flanged Ansi
- FJ = Flanged JIS

No.6 Options

- OO = Standard, no option
- RE = Remote
- PD = Ready for Pulsation Dampener
- VS = Vertical Suction
- BS = Barrier system with Sensors only
- LS = Leak detection, Sensor only
- SS = Stroke Sensor
- DM = Draining Manual
- DP = Draining Pneumatical
- AP = ANSI Prepared

⊕ II 2GD c II B Tx

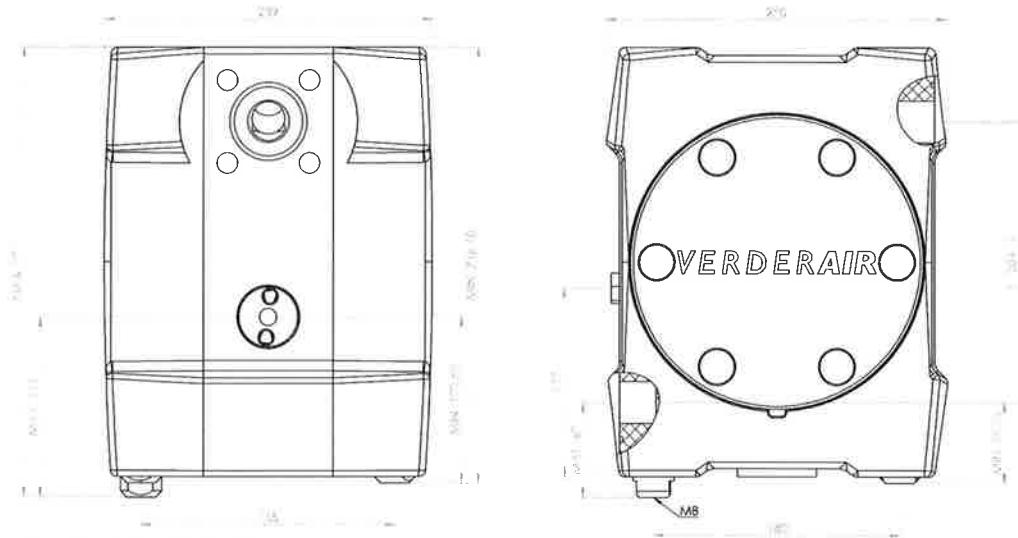
EXAMPLE PUMP TYPE

EXAMPLE : VA-P25EE EE TF TO TN OO

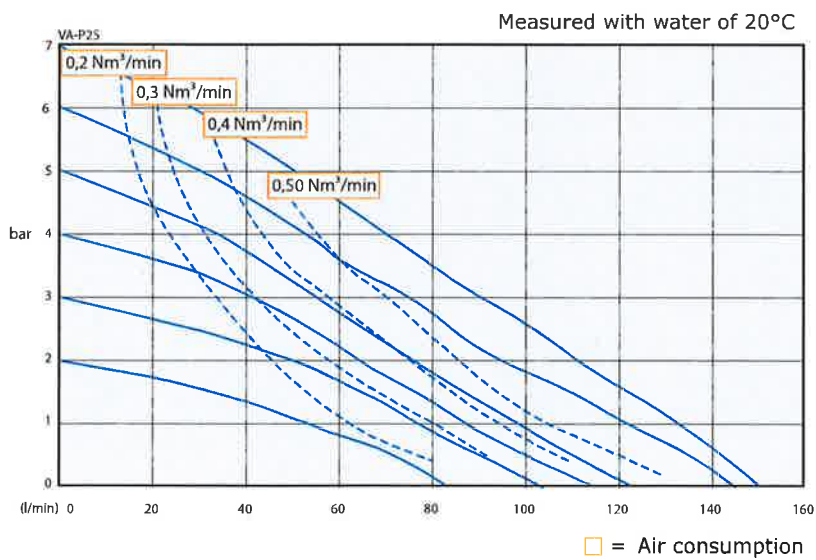


Verderair VA-P25

VA-P25



Dimensions in millimeters



1

REGLO *Analog / Digital*

The smallest calibrateable dispensing pump
Footprint only 178x100 mm!

- Very low pulsation (model with 12 rollers)
- High repeatability
- 10 cm wide, 13.5 cm high



Dispensing and calibrating function see Page 5

REGLO *Analog / Digital*

- 2 or 4 channels
- Choice of 6, 8 or 12 rollers
- Click'n'go cassettes with automatic pressure mechanism (each channel can take various tubing sizes)
- 3-stop tubing
- Differential pressure 1.0 bar depending on tubing material. Tubing with small i.d.'s and/or cassettes with pressure lever (Page 60) may enable higher pressures.

REGLO *Digital*
with dispensing functions
0.001–68 ml/min (per channel)
- Microprocessor controlled



REGLO *Analog*
without dispensing functions
0.002–68 ml/min (per channel)
- Variable speed drive

Specifications REGLO *Analog*

Motor type	DC motor
Speed	2-channel 3.2 – 160 rpm 4-channel 2.0 – 100 rpm
Speed setting	2–99%, resolution 1% 2-digit potentiometer
Power consumption	20 W
Mains connection	230V _{AC} /50Hz, 115V _{AC} /60Hz adjustable
Protection rating	IP 30
Depth/Width/Height	2-channel 178x100x143 mm 4-channel 190x100x143 mm
Weight	2-channel 2.0 kg 4-channel 2.1 kg

Specifications REGLO *Digital*

Motor type	DC motor
Speed	2-channel 1.6 – 160 rpm 4-channel 1.0 – 100 rpm
Speed setting	rpm, resolution 0.1 rpm
Flow rate setting	µl/min or ml/min
Power consumption	75 W
Mains connection	100–230V _{AC} /50–60Hz
Protection rating	IP 30
Depth/Width/Height	2-channel 178x100x135 mm 4-channel 190x100x135 mm
Weight	2-channel 2.0 kg 4-channel 2.1 kg



REGLO Analog
2-digit potentiometer
2–99%, resolution 1% (for speed setting)



REGLO Digital
6-button membrane key-pad, LED-display
Flow rate setting in µl/min and ml/min

Interfaces



- REGLO Analog**
- Speed control (0–5 or 0–10 V, 0–20 or 4–20 mA)
 - Speed output
2-channel: 0–8 kHz
4-channel: 0–5 kHz
 - Start/Stop
 - Rotation direction



- REGLO Digital**
PC-controllable
Analog: only speed output (see Reglo Analog), start/stop and autostart

Flow rates and tubing

Model	REGLO Analog+Digital 2 6		REGLO Analog+Digital 2 8		REGLO Analog+Digital 2 12		REGLO Analog+Digital 4 6		REGLO Analog+Digital 4 8		REGLO Analog+Digital 4 12				
	Channels	Rollers	Speed rpm	1.6 ¹	160	1.6 ¹	160	1.6 ¹	160	1.0 ¹	100	1.0 ¹	100	1.0 ¹	100
Tygon®ST R-3503/R-3607				ml/min per channel		ml/min per channel		ml/min per channel		ml/min per channel		ml/min per channel		ml/min per channel	
Order No.	Tubing i.d. (mm)	min. ¹	max.	min. ¹	max.	min. ¹	max.	min. ¹	max.	min. ¹	max.	min. ¹	max.	min. ¹	max.
SC0189	0.13	0.003	0.22	0.002	0.17	0.002	0.15	0.002	0.14	0.002	0.11	0.001	0.093		
SC0050	0.25	0.008	0.76	0.007	0.65	0.007	0.61	0.005	0.48	0.005	0.41	0.004	0.38		
SC0053	0.51	0.031	3.1	0.027	2.7	0.025	2.5	0.019	1.9	0.017	1.7	0.016	1.6		
SC0056	0.76	0.067	6.7	0.058	5.8	0.053	5.3	0.042	4.2	0.036	3.6	0.033	3.3		
SC0059	1.02	0.112	12	0.10	10	0.090	9.0	0.073	7.3	0.063	6.3	0.056	5.6		
SC0062	1.22	0.16	16	0.14	14	0.12	12	0.10	10	0.088	8.8	0.075	7.5		
SC0065	1.52	0.24	24	0.20	20	0.17	17	0.15	15	0.13	13	0.10	10		
SC0068	1.85	0.34	34	0.28	28	0.21	21	0.21	21	0.17	17	0.13	13		
SC0071	2.54	0.53	53	0.44	44	0.31	31	0.33	33	0.27	27	0.19	19		
SC0224	3.17	0.68	68	0.57	57	0.38	38	0.43	43	0.35	35	0.24	24		

Approx. values: determined with water, at 22°C, no differential pressure, Tygon tubing.

¹ Min. flow rate for REGLO Analog = 2 % of max. flow rate

Ask for our Pump Tubing Selection Guide (see also Pages 30 to 39).



Spare cassettes MS/CA
(see Page 60)

Ordering information (values in brackets are for REGLO Digital)

Model	Order No.	Order No.	Flow rates	Channels	Rollers	Speed
	REGLO Analog	REGLO Digital	ml/min per channel			rpm
MS-2/06	ISM 830	ISM 831	0.005 (0.003) – 68	2	6	1.6 (3.2)–160
MS-2/08	ISM 829	ISM 832	0.004 (0.002) – 57	2	8	1.6 (3.2)–160
MS-2/12	ISM 795	ISM 596	0.003 (0.002) – 38	2	12	1.6 (3.2)–160
MS-4/06	ISM 828	ISM 833	0.003 (0.002) – 43	4	6	1.0 (2.0)–100
MS-4/08	ISM 827	ISM 834	0.003 (0.002) – 35	4	8	1.0 (2.0)–100
MS-4/12	ISM 796	ISM 597	0.002 (0.001) – 24	4	12	1.0 (2.0)–100
Foot switch	ISM 891	ISM 894	see Page 61			

Spare cassettes MS/CA ... see Page 60

LabVIEW driver for Reglo Digital download for free: www.ismatec.com

Applications

- Addition of a reagent to a reactor and simultaneous removal of the reaction product from the upper fraction. Ramp control combined with a thermostat to maintain the ΔT during the reaction.
- Simultaneous addition of both components of a 2-component adhesive in ratio 1:10 with two different tubing sizes.

**KROHNE
OPTISONIC 6000 F/W**

OPTISONIC 6300

**PRÍLOŽNÝ ULTRAZVUKOVÝ
PRIETOKOMER**

- Príložený ultrazvukový prietokomer pre kvapaliny
- Meranie objemového prietoku aj pre tečeného množstva kvapalín
- Presnosť: $\pm 1\%$ pre $DN \geq 50$
 $\pm 3\%$ pre $DN < 50$
- Robustná konštrukcia
- Montáž snímačov zvonku na potrubie, bez zásahu do potrubia - Clamp-on
- Jednoduchá montáž a uvedenie do prevádzky
- Efektívny, spoľahlivý s jednoduchou obsluhou
- Minimálna údržba
- Výstup: prúdový, pulzný, HART
- Ex prevedenie - ATEX

- Pre všetky kvapaliny
- Riadenie priemyselných procesov
- Chladiace okruhy
- Deionizovaná, demineralizovaná, pěníá, vysoko čistá voda
- Chemický, petrochemický, potravinársky priemysel
- Energetika
- Ťažba ropy a plynu
- Vodné hospodárstvo
- Výroba polovodičov

Doporučený rozsah merania:

0,5...20 m/s

Napájacie napätie:

85...250 V AC, 20,5...26 V AC/DC

Teplota okolia:

-40...+60 °C

Teplota média:

-40...+200 °C

Krytie:

IP 66, 67

Svetlosť:

DN15 - DN4000



pH 70+ DHS

vodotěsný přenosný pH, ORP-metr s možností stahování dat a GLP

pH 70+ DHS CE IP57 USB GLP

KATALOGOVÉ ČÍSLO	PRODUKT
50010112	Vodotěsný přenosný přístroj pH 70+ DHS pro měření pH/mV s pH elektrodou s teplotním čidlem, pufrů pH 4 a pH 7, USB napájením, PC propojovacím kabelem a PC-Link softwarem a kufříkem
50010182	Vodotěsný přenosný přístroj pH70+ DHS pro měření pH/mV s digitální pH elektrodou 201 T DHS s teplotním čidlem, pufrů pH4 a pH7, USB napájením, PC propojovacím kabelem a PC-Link softwarem a kufříkem
PŘÍSLUŠENSTVÍ	
50002002 viz str. F10	pH elektroda XS 201T, BNC konektor a CINCH konektor
322001103	Digitální pH elektroda 201T DHS s teplotním čidlem a 1m kabelem, konektory BNC a CINCH

Vodotěsný přenosný pH-metr **pH 70+ DHS** má velký multifunkční LCD displej zobrazující aktuální naměřenou hodnotu pH nebo ORP a teploty. Zároveň displej zobrazuje čas, indikátor stability, ukládání dat do paměti, informace o kalibraci. Vnitřní zálohovaná paměť přístroje umožňuje uložení 500 souborů dat (zůstávají uloženy i při vypnutí přístroje). Každá série naměřených údajů je uložena s odpovídající teplotou, časem a datem měření (odpovídá požadavkům Správné Laboratorní Praxe – GLP). Data lze stáhnout do počítače přes USB rozhraní a software PC-Link.

HLAVNÍ VLASTNOSTI

- uživatelská nastavení
- víceparametrové měření – přístroj měří pH, potenciál v mV (ORP) a teplotu (°C)
- paměť na 500 souborů dat s označením času a data měření (GLP)
- automatická diagnostika
- jednoduchá vícebodová („push-button“) kalibrace
- funkce HOLD a automatické vypnutí
- dobře čitelný displej

APLIKACE pH-metrů **pH 70+DHS**: vodárenství a úprava odpadních vod, akvária, bazény, akvaparky a lázeňská zařízení; zemědělské a zahradnické aplikace (chov ryb, hydroponie atd.); potravinářský průmysl; průmysl papíru a celulózy; energetika (kotle, chladicí věže); kontrola kvality vody a ekologické studie.

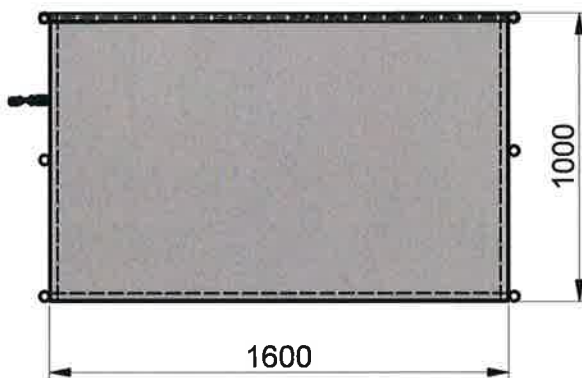
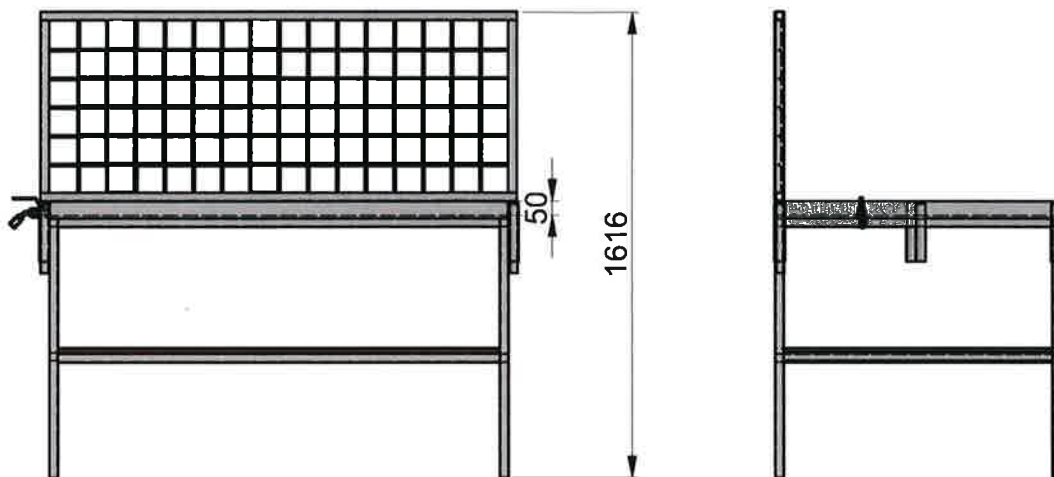
MĚŘENÉ VELIČINY / ROZSAHY

		pH 70+ DHS
pH	Rozsah	-2,00 až 16,00 pH
	Rozlišení	0,1/0,01 pH
	Přesnost	±0,01 pH + 1 LSD (poslední platná číslice)
	Kalibrace	Třibodová automatická (pufrů USA, NIST)
	Senzor	BNC konektor – připojení různých typů elektrody
ORP	Rozsah	±1 999 mV
	Rozsah rel. mV	±1 999 mV
	Rozlišení	+0,1 mV (±200 mV)/1 mV (v rozsahu vyšším)
	Přesnost	±1 % z celého rozsahu + 1 LSD (poslední platná číslice)
Teplota	Rozsah	-10 až 110,0 °C
	Rozlišení	0,1 °C
	Přesnost	±0,5 °C


TECHNICKÉ PARAMETRY

Teplotní kompenzace	Automatická/manuální (0 až 100 °C)
GLP (správná laboratorní praxe)	✓
Zobrazení směrnice/kompenzace	✓
Indikátor stability	✓
Automatické vypnutí	po 20 minutách nečinnosti
Zálohovaná paměť	✓
Paměť	500 souborů dat
Provozní teplota	0 až 50 °C
Vstup	Zdílnka na DC adaptér, BNC konektor, konektor CINCH (ATC), USB
Výstup	USB
Baterie/napájení	3x 1,5 V AAA alkalická baterie nebo 220 V přes USB
Životnost baterie	> 500 h
Krytí	IP57
Hmotnost	300 g
Rozměry	196 x 86 x 33 mm





Tabuľka	
Názov	Parameter
typ	laboratórny stôl
objem zachytnej vaničky	80 litrov
rozmer	1600 x 1000 x 960
materiál vaničky	nehrdzavejúca oceľ
materiál vertikálnej mreže	nehrdzavejúca oceľ
materiál police	lamino
goľový kohút	DN 20
nosnosť stola	150 kg

						Počet kusov:	1
Index: Zmena:			Navrhol:	Preskúšal:	Schválil:	Dátum:	Netolerované rozmery podľa ISO 2768 m,K
Materiál:		Atest:		Mierka:			
Rozmer:		Polotovár:		Hmotnosť:		75,000 kg	
Techn.dod.podm.mat.:		Dátum vytvorenia: 19. 6. 2018		Poznámka:			
Vypracoval:		Dátum úpravy:		Číslo kusovníka:		Nadradená zostava	Pozícia
Schválil: Ing. Boris Bednár		Projekt:		Amec Foster Wheeler Nuclear Slovakia s.r.o., Piešťanská 3, 917 01 Trnava		List: 1 / 1	
		Laboratórny stôl Názov:		Číslo výkresu:		Porad.č.v.	