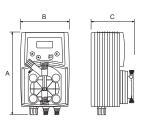


VCO CONSTANT



Constant dosing pump adjustable from 0 to 100% of the nominal flow rate and with a turn-down ratio of 10.

Model	Code	Flow rate (I/h)	Max. p. (bar)	Flow rate x injection	Material
VCO 1004 K PV	10017059	4	10	0.37	PVDF
VCO 1002 K APG	10017099	2	10	0.19	PVDF
VCO 1004 K PV CC	10017159	4	10	0.37	PVDF



DIMENSIONS/MM

Model	Α	В	C
VCO	107	210	126

CHARACTERISTICS:

Supply voltage: 230 Vac \pm 15%, 50/60 Hz or 12 Vdc \pm 15% (CC models). Power: 16 W. Noise level: \pm 74 dB(A). Max. height of suction: 1.5 m. Working temperature: 0 - 45 °C.

GENERAL INFORMATION:

Motor: electromagnetic. Injections per minute: 180. Protection: IP65. Auto-deaeration head (only APG models). Suction filter: yes.
Divider: yes (10:1).
Suction connections: transparent
PVC 4x6 mm pipe.
Propulsion connections: natural PE
4x6 mm pipe.

MATERIALS:

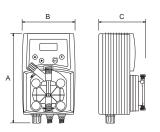
Case: PPO.
Membrane: PTFE.
Spring: HASTELLOY C276.
Body of the pump: PVDF.
Foot valve: PVDF.
Injection valve: PVDF.
Valve balls: ceramic.
Seals: Viton.

VMS MF DIGITAL



 $\label{lem:multifunction} \mbox{Multifunction proportional/constant dosing pump controlled through external pulses and through different adjustable programs.}$

Model	Code	Flow rate (I/h)	Max. p. (bar)	Flow rate x injection	Materials
VMS MF 1004 K PV	10017259	4	10	0.37	PVDF
VMS MF 1002 K APG	10017299	2	10	0.19	PVDF
VMS MF 1004 K PV DC	10017359	4	10	0.37	PVDF



DIMENSIONS/MM

Model	Α	В	C
VMS MF	107	210	126

CHARACTERISTICS:

Supply voltage: 230 Vac \pm 15%, 50/60 Hz or 12 Vdc \pm 15% (CC models). Power: 16 W. Noise level: \pm 74 dB(A).

Max. height of suction: 1.5 m. Working temperature: 0 - 45 °C.

GENERAL INFORMATION:

Programs: constant, divider, multiplier, percentage, ppm, MLQ and batch. Motor: electromagnetic. Injections per minute: 180. Protection: IP65. Auto-deaeration head (only APG models).

Suction filter: yes.
Suction connections: transparent
PVC 4x6 mm pipe.
Propulsion connections: natural PE
4x6 mm pipe.

MATERIALS:

Case: PPO.
Membrane: PTFE.
Spring: HASTELLOY C276.
Body of the pump: PVDF.
Foot valve: PVDF.
Injection valve: PVDF.
Valve balls: ceramic.
Seals: Viton.



Multifunction proportional/constant dosing pump controlled through external pulses and through different adjustable programs.

DIGITAL Code Flow rate Max. p. Flow rate x injection injection

Model	Code	Flow rate (I/h)	Max. p. (bar)	Flow rate x injection	Materials
TMS MF 0330 PV	10018039	30	3	4.20	PVDF
TMS MF 0230 PV CC	10018139	30	2	4.20	PVDF

CHARACTERISTICS:

Supply voltage: 230 Vac \pm 8%, 50/60 Hz or 12 Vdc \pm 10% (CC models). Peak consumption: 1.6 A. Noise level: \pm 74 dB(A). Max. height of suction: 1.5 m. Working temperature: 0 - 45 °C.

GENERAL INFORMATION:

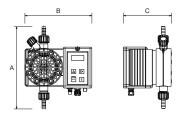
Programs: constant, divider, multiplier, percentage, ppm, MLQ and batch.

Motor: electromagnetic.
Injections per minute: 120.

Protection: IP65. Suction filter: yes. Suction connections: transparent PVC 8x12 mm pipe. Propulsion connections: natural PVDF 8x10 mm pipe.

MATERIALS:

Case: PP.
Membrane: PTFE.
Body of the pump: PVDF.
Foot valve: PVDF.
Injection valve: PVDF.
Valve balls: ceramic.
Seals: Viton.



DIMENSIONS/MM

J						
Model	Α	В	C			
TMS MF	222	222	160			



TMS MF

0

NEW

Multifunction membrane dosing pump with proportional/constant stepper motor, controlled through external pulses and through different adjustable programs.

Model	Code	Flow rate (I/h)	Max. p. (bar)	Flow rate x injection	Materials
PRISMA 0528 PV	10018238	28	5	2.59	PVDF
PRISMA 0280 PV	10018239	80	2	7.41	PVDF
PRISMA 0528 PV CC	10018338	28	5	2.59	PVDF
PRISMA 0280 PV CC	10018339	80	2	7.41	PVDF

CHARACTERISTICS: Supply voltage: 230 Vac ± 8%,

50/60 Hz or 12 Vdc \pm 10% (CC models). Power: 30 W. Max. height of suction: 1.5 m.

Working temperature: 1 - 45 °C.

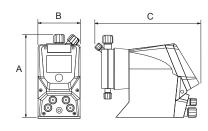
GENERAL INFORMATION:

Programs: constant, cc per pulse, ppm, percentage, MLQ, batch, voltage, mA, pulse, pause work, weekly and constant programs through external signal. Motor: stepper. Injection valve thread size: 1/2" (PRISMA 0528) 3/4" (PRISMA 0280)

Injections per minute: 180. Protection: IP65. Suction filter: yes. Suction connections: transparent PVC 8x12 mm pipe. Propulsion connections: natural PVDF 8x10 mm pipe.

MATERIALS:

Case: PP+GF.
Membrane: PTFE.
Body of the pump: PVDF.
Foot valve: PVDF.
Injection valve: PVDF.
Valve balls: ceramic.
Seals: Viton.



DIMENSIONS/MM

Model	Α	В	C
PRISMA	233	115	266

PRISMA DIGITAL





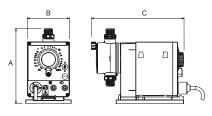
DDE-BCONSTANT



Membrane dosing pump, with stepper motor and electronic stroke frequency system with a high turn-down ratio (1:1000).

Model Code	Code	Flow ra	Flow rate (I/h) Max. p.		Stroke v.	84-4
Model	Code	min.	max.	(bar)	(cm³)	Materials
DDE-B 6 PVC	10020036	0.006	6	10	0.81	PVC/V/C
DDE-B 15 PVC	10020039	0.015	15	4	1.58	PVC/V/C
DDE-B 6 PV	10020056	0.006	6	10	0.81	PV/T/C
DDE-B 15 PV	10020059	0.015	15	4	1.58	PV/T/C

Does not include installation kit.



DIMENSIONS/MM

Model	Α	В	С
DDE-B 6	196	110	251
DDE-B 15	200	110	251

CHARACTERISTICS:

Supply voltage: $100\text{-}240\,\text{V} \pm 10\%, 50/60\,\text{Hz}.$ Power: 19 W. Accuracy: dosing flow $<\pm 1\%,$ linearity $<\pm 1\%.$ Noise level: $\pm 60\,\text{dB(A)}.$ Max. height of suction: $6\,\text{m}\,\text{WS}.$ Max. viscosity: up to 500 cP (with spring valves, check). Max. environmental and working temperature: $45\,^{\circ}\text{C}.$

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission.

Strokes per minute: 140 (6 l/h) and 180 (15 l/h).
Protection: IP65.
Suction filter: yes.
Recommended connections:
DN8 (6/12).

FEATURES:

Manual speed control.

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.

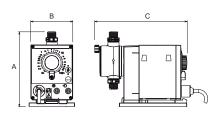
DDE-PDIVIDER



Constant/proportional membrane dosing pump, with a stepper motor and electronic stroke frequency system with a high turn-down ratio (1:1000).

Model	Code	Flow ra	te (l/h)	Max. p.	Stroke v.	Materials
Model	Code	min.	max.	(bar)	(cm³)	Materials
DDE-P 6 PVC	10020136	0.006	6	10	0.81	PVC/V/C
DDE-P 15 PVC	10020139	0.015	15	4	1.58	PVC/V/C
DDE-P 6 PV	10020156	0.006	6	10	0.81	PV/T/C
DDE-P 15 PV	10020159	0.015	15	4	1.58	PV/T/C

Does not include installation kit.



DIMENSIONS/MM

Model	Α	В	С
DDE-P 6	196	110	251
DDE-P 15	200	110	251

CHARACTERISTICS:

Supply voltage: $100\text{-}240\,\text{V} \pm 10\%, 50/60\,\text{Hz}.$ Power: 19 W. Accuracy: dosing flow $<\pm 1\%,$ linearity $<\pm 1\%.$ Noise level: $\pm 60\,\text{dB(A)}.$ Max. height of suction: $6\,\text{mWS}.$ Max. viscosity: up to 500 cP (with spring valves, check). Max. environmental and working temperature: $45\,^{\circ}\text{C}.$

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission. Strokes per minute: 140 (6 l/h) and 180 (15 l/h). Protection: IP65. Divider: yes (1:1 to 1000:1). Recommended connections: DN8 (6/12). Inputs: contact signal, remote connect/disconnect, and tank-empty notification. Outputs: no.

FEATURES:

Manual speed control and pulse control (1:n).

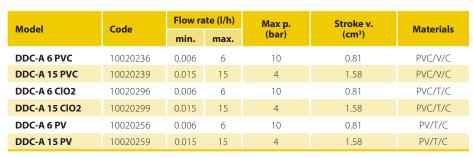
MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



Digital membrane dosing pump, with stepper motor and electronic stroke control and adjustment system with a high turn-down ratio (1:1000). Easy-to-use interface with pump performance displayed in I/h with perfect calibration, for improved use and unrivaled precision.

DDC-A **DIGITAL**



Does not include installation kit.

Supply voltage: 100-240 V ± 10%, 50/60 Hz. Power: 22 W. Accuracy: dosing flow $< \pm 1\%$, linearity $< \pm 1\%$. Noise level: \pm 60 dB(A). Max. height of suction: 6 m WS. Max. viscosity: normal up to 500 cP and Slow Mode at 25% (2000 cP) (with spring valves, check). Max. environmental and working temperature: 45 °C.

Recommended connections: DN8 (6/12). Divider: yes (auto dosing in ml). Multiplier: yes (auto dosing in ml). Inputs: contact signal, remote connect/disconnect, empty tank advance notification, and tankempty notification.

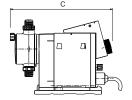
Strokes per minute: 140 (6 l/h)

and 180 (15 l/h).

Protection: IP65.

Outputs: no.





DIMENSIONS/MM

Model	Α	В	С
DDC-A 6	196	110	280
DDC-A 15	200	110	280

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFF.

CHARACTERISTICS:

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission.

Digital dial with adjustable color settinas.

FEATURES:

Manual speed control and pulse control (ml/pulse). Slow Mode system, calibration, and event logging.

Digital membrane dosing pump, with stepper motor and electronic stroke control and adjustment system with a high turn-down ratio (1:1000). Easy-to-use interface with pump performance displayed in I/h with perfect calibration, for improved use and unrivaled precision.

Model	Code	Flow ra	ite (l/h)	Max. p.	Stroke v.	Materials
Wodel		min.	max.	(bar)	(cm³)	Materials
DDC-AR 6 PVC	10020336	0.006	6	10	0.81	PVC/V/C
DDC-AR 15 PVC	10020339	0.015	15	4	1.58	PVC/V/C
DDC-AR 6 PV	10020356	0.006	6	10	0.81	PV/T/C
DDC-AR 15 PV	10020359	0.015	15	4	1.58	PV/T/C

Does not include installation kit.

DDC-AR DIGITAL mA



CHARACTERISTICS:

Supply voltage: $100-240 \text{ V} \pm 10\%$, 50/60 Hz. Power: 22 W. Accuracy: dosing flow $< \pm$ 1%, linearity $< \pm$ 1%. Noise level: \pm 60 dB(A). Max. height of suction: 6 m WS. Max. viscosity: normal up to 500 cP and Slow Mode at 25% (2000 cP) (with spring valves, check). Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission.

Digital dial with adjustable color settings.

Strokes per minute: 140 (6 l/h) and 180 (15 l/h).

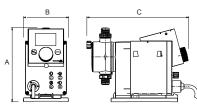
Protection: IP65.

Divider: yes (auto dosing in ml). Multiplier: yes (auto dosing in ml). Recommended connections: DN8 (6/12).

Inputs: contact signal, 0/4-20 mA signal, remote connect/disconnect, empty tank advance notification, and tank-empty notification. Outputs: 2 programmable relay outputs.

FEATURES:

Manual speed control and pulse control (ml/pulse). Slow Mode system, calibration, event logging, and selectable alarm outputs.



DIMENSIONS/MM

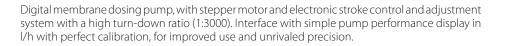
Model	Α	В	C	
DDC-AR 6	196	110	280	
DDC-AR 15	200	110	280	

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



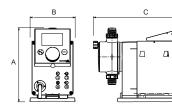
DDA-AR ADVANCED





Model	Code	Flow rate		Max. p.	Stroke v.	Materials
Wodel		min.	max.	(bar)	(cm³)	Materials
DDA-AR 7.5 PVC	10020436	0.002	7.5	10	0.74	PVC/V/C
DDA-AR 17 PVC	10020438	0.017	17	7	1.55	PVC/V/C
DDA-AR 30 PVC	10020439	0.030	30	4	3.10	PVC/V/C
DDA-AR 30 CIO2	10020499	0.030	30	4	3.10	PVC/T/C
DDA-AR 7.5 PV	10020456	0.002	7.5	16	0.74	PV/T/C
DDA-AR 17 PV	10020458	0.017	17	7	1.55	PV/T/C
DDA-AR 30 PV	10020459	0.030	30	4	3.10	PV/T/C

Does not include installation kit.



DIMENSIONS/MM

Model	Α	В	C
DDA-AR 7.5	196	110	280
DDA-AR 17	200	110	280
DDA-AR 30	205	110	295

CHARACTERISTICS:

Supply voltage: 100-240 V \pm 10%, 50/60 Hz. Power: 24 W.

Accuracy: dosing flow $< \pm$ 1%, linearity $< \pm$ 1%. Noise level: \pm 60 dB(A).

Max. height of suction: 6 m WS.

Max. viscosity: up to 2500 cP (according to model and Slow Mode program). With spring valves, check. Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission. Digital dial with adjustable color settings. Strokes per minute: 190 (7.5 l/h), 205 (17 l/h) and 180 (30 l/h).

Protection: IP65.

Suction filter: yes.

Divider: yes (auto dosing in ml).

Multiplier: yes (auto dosing in ml).

Recommended connections: DN8 (6/12).

Inputs: contact signal, 0/4-20 mA signal, remote

connect/disconnect, empty tank advance notification,

tank-empty notification, and Genibus.

Outputs: 2 programmable relay outputs, 0/4-20 mA scalable signal, and Genibus.

FEATURES:

Manual speed control and pulse control (ml/pulse), 0/4-20 mA scalable signal, batch, weekly time programmer and Fieldbus (optional).

Slow Mode system, auto-deaeration on standby, calibration, event logging, and selectable alarm outputs.

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



Digital membrane dosing pump, with stepper motor and electronic stroke control and adjustment system with a high turn-down ratio (1:3000). Easy-to-use interface with pump performance displayed in I/h with perfect calibration, for improved use and unrivaled precision. Includes smart Flow Adapt feature with real-time pressure and flow rate control.

DDA-FCM INTELLIGENT

Model	Code	Flow ra	ite (l/h)	Max. p.	Stroke v.	Materials
Wodel		min.	max.	(bar)	(cm³)	Materials
DDA-FCM 7.5 PVC	10020536	0.002	7.5	10	0.74	PVC/V/C
DDA-FCM 17 PVC	10020538	0.017	17	7	1.55	PVC/V/C
DDA-FCM 30 PVC	10020539	0.030	30	4	3.10	PVC/V/C
DDA-FCM 7.5 PV	10020556	0.002	7.5	16	0.74	PV/T/C
DDA-FCM 17 PV	10020558	0.017	17	7	1.55	PV/T/C
DDA-FCM 30 PV	10020559	0.030	30	4	3.10	PV/T/C



Does not include installation kit.

DIMENSIONS/MM

Model	Α	В	C
DDA-FCM 7.5	196	110	280
DDA-FCM 17	200	110	280
DDA-FCM 30	205	110	295

CHARACTERISTICS:

Supply voltage: $100-240 \text{ V} \pm 10\%$, 50/60 Hz. Power: 24 W.

Accuracy: dosing flow $< \pm 1\%$, linearity $< \pm 1\%$. Noise level: \pm 60 dB(A).

Max. height of suction: 6 m WS.

Max. viscosity: up to 2500 cP (according to model and Slow Mode program). With spring valves, check. Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission. Digital dial with adjustable color settings. Strokes per minute: 190 (7.5 l/h), 205 (17 l/h) and 180 (30 l/h). Protection: IP65.

Suction filter: yes.

Divider: yes (auto dosing in ml).

Multiplier: yes (auto dosing in ml).

Recommended connections: DN8 (6/12).

Inputs: contact signal, 0/4-20 mA signal, remote connect/disconnect, empty tank advance notification,

tank-empty notification, and Genibus.

Outputs: 2 programmable relay outputs, 0/4-20 mA scalable signal, and Genibus.

FEATURES:

Manual speed control and pulse control (ml/pulse), 0/4-20 mA scalable signal, batch, weekly time programmer and Fieldbus (optional).

Slow Mode system, auto-deaeration on standby, calibration, event logging, and selectable alarm outputs.

Pressure control with selective malfunction diagnostics. Real-time flow rate measurement and automatic flow rate setting feature.

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



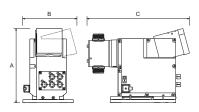
DDE-BXL CONSTANT



Constant membrane dosing pump, with a stepper motor and electronic stroke frequency system with a high turn-down ratio (1:800).

Model	Model Code	Flow ra	ite (l/h)	Max. p.	Stroke v.	Materials
Model	Code	min.	max.	(bar)	(cm³)	
DDE-B XL 60 PVC	10020636	0.075	60	10	5.56	PVC/V/C
DDE-B XL 120 PVC	10020638	0.150	120	7	11.58	PVC/V/C
DDE-B XL 200 PVC	10020639	0.250	200	4	19.30	PVC/V/C
DDE-B XL 60 PV	10020656	0.075	60	10	5.56	PV/T/C
DDE-B XL 120 PV	10020658	0.150	120	7	11.58	PV/T/C
DDE-B XL 200 PV	10020659	0.250	200	4	19.30	PV/T/C

Does not include installation kit.



DIMENSIONS/MM

Model	Α	В	С	
DDE-B XL	284	209	410	

CHARACTERISTICS:

Supply voltage: 100-240 V \pm 10%, 50/60 Hz. Power: 62 W. Accuracy: dosing flow $< \pm 1\%$, linearity $< \pm 1\%$. Noise level: \pm 80 dB(A). Max. height of suction: 3 m with water. Manual speed control. Max. viscosity: up to 1000 cP (with spring valves, check). Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission. Strokes per minute: 196 (60 l/h) and 188 (120-200 l/h).

Protection: IP65. Suction and propulsion connections: 19/20 mm flexible hose kit, 25 mm pipe welding. Divider: yes (1:1 to 800:1).

FEATURES:

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFF.

DDE-ARXL DIVIDER mA



Constant/proportional membrane dosing pump, with a stepper motor and electronic stroke frequency system with a high turn-down ratio (1:800).

Model Code	Flow ra	te (l/h)	Max. p.	Stroke v.	Materials	
Model	Model	min.	max.	(bar)	(cm³)	Materials
DDE-AR XL 60 PVC	10020736	0.075	60	10	5.56	PVC/V/C
DDE-AR XL 120 PVC	10020738	0.150	120	7	11.58	PVC/V/C
DDE-AR XL 200 PVC	10020739	0.250	200	4	19.30	PVC/V/C
DDE-AR XL 60 PV	10020756	0.075	60	10	5.56	PV/T/C
DDE-AR XL 120 PV	10020758	0.150	120	7	11.58	PV/T/C
DDE-AR XL 200 PV	10020759	0.250	200	4	19.30	PV/T/C

Does not include installation kit.

CHARACTERISTICS:

Supply voltage: $100-240 \text{ V} \pm 10\%$, 50/60 Hz. Power: 62 W. Accuracy: dosing flow $<\pm$ 1%, linearity $<\pm$ 1%. Noise level: \pm 80 dB(A). Max. height of suction: 3 m with water. Max. viscosity: up to 1000 cP (with spring valves, check). Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission. Strokes per minute: 196 (60 l/h) and 188 (120-200 l/h). Protection: IP65. Suction and propulsion connections: 19/20 mm flexible hose kit, 25 mm pipe welding.

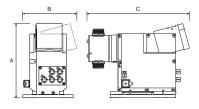
Divider: yes (1:1 to 800:1). Inputs: contact signal, 0/4-20 mA signal, remote connect/disconnect, empty tank advance notification, and tank-empty notification. Outputs: 2 programmable relay outputs.

FEATURES:

Manual speed control and pulse control (1:n). 4-20 mA analog control scalable in 3 ranges.

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



DIMENSIONS/MM

Model	Α	В	С
DDE-AR XL	284	209	410



NEW

Digital membrane dosing pump, with a stepper motor and electronic stroke control and adjustment system with high turn-down ratio (1:800). Easy-to-use interface with pump performance displayed in I/h with perfect calibration, for improved use and unrivaled precision.

DDA-AR XLADVANCED

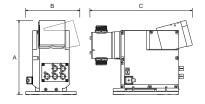
Model	.4.1	Flow rate (I/h)		Max. p.	Stroke v.	Materials
Model	Code	min.	max.	(bar)	(cm³)	Materials
DDA-AR XL 60 PVC	10020836	0.075	60	10	5.56	PVC/V/C
DDA-AR XL 120 PVC	10020838	0.150	120	7	11.58	PVC/V/C
DDA-AR XL 200 PVC	10020839	0.250	200	4	19.30	PVC/V/C
DDA-AR XL 60 PV	10020856	0.075	60	10	5.56	PV/T/C
DDA-AR XL 120 PV	10020858	0.150	120	7	11.58	PV/T/C
DDA-AR XL 200 PV	10020859	0.250	200	4	19.30	PV/T/C



Does not include installation kit.

DIMENSIONS/MM

Model	Α	В	C		
DDA-AR XL	284	209	410		



CHARACTERISTICS:

Supply voltage: 100-240 V \pm 10%, 50/60 Hz.

Power: 62 W.

Accuracy: dosing flow $< \pm$ 1%, linearity $< \pm$ 1%.

Noise level: \pm 80 dB(A).

Max. height of suction: 3 m with water.

Max. viscosity: up to 3000 cP (with spring valves and Slow Mode program, check).

Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission.

Strokes per minute: 196 (60 l/h) and 188 (120-200 l/h).

Protection: IP65

Suction and propulsion connections: 19/20 mm flexible hose kit, 25 mm pipe welding.

Divider: yes (auto dosing in ml).

Multiplier: yes (auto dosing in ml).

 $Inputs: contact \ signal, 0/4-20 \ mA \ signal, remote \ connect/disconnect, empty \ tank \ advance \ notification,$

tank-empty notification, and Genibus.

Outputs: 2 programmable relay outputs, 0/4-20 mA scalable signal, and Genibus.

FEATURES:

Manual speed control and pulse control (ml/pulse), 0/4-20 mA scalable signal, batch, weekly time programmer and Fieldbus (optional).

Slow Mode system, auto-deaeration on standby, calibration, event logging, and selectable alarm outputs.

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic.

Membrane: PTFE.

₹ Tashia®



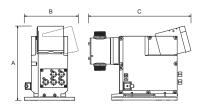
DDA-FCM XL INTELLIGENT



Digital membrane dosing pump, with a stepper motor and electronic stroke control and adjustment system with high turn-down ratio (1:800). Easy-to-use interface with pump performance displayed in I/h with perfect calibration, for improved use and unrivaled precision. Includes smart Auto-FlowAdapt feature with real-time pressure and flow rate control.

Model	Code	Flow ra	ite (l/h)	Max. p.	Stroke v.	Materials	
	Code	min.	max.	(bar)	(cm³)		
DDA-FCM XL 60 PVC	10020936	0.075	60	10	5.56	PVC/V/C	
DDA-FCM XL 120 PVC	10020938	0.150	120	7	11.58	PVC/V/C	
DDA-FCM XL 200 PVC	10020939	0.250	200	4	19.30	PVC/V/C	
DDA-FCM XL 60 PV	10020956	0.075	60	10	5.56	PV/T/C	
DDA-FCM XL 120 PV	10020958	0.150	120	7	11.58	PV/T/C	
DDA-FCM XL 200 PV	10020959	0.250	200	4	19.30	PV/T/C	

Does not include installation kit.



CHARACTERISTICS:

Supply voltage: 100-240 V \pm 10%, 50/60 Hz. Power: 62 W.

Accuracy: dosing flow $< \pm$ 1%, linearity $< \pm$ 1%. Noise level: \pm 80 dB(A).

Max. height of suction: 3 m with water.

Max. viscosity: up to 3000 cP

(with spring valves and Slow Mode program, check). Max. environmental and working temperature: 45 °C.

GENERAL INFORMATION:

Motor: dynamic stepper motor with transmission. Strokes per minute: 196 (60 l/h), 188 (120-200 l/h). Protection: IP65.

Suction and propulsion connections:

19/20 mm flexible hose kit, 25 mm pipe welding.

Divider: yes (auto dosing in ml).

Multiplier: yes (auto dosing in ml).

Inputs: contact signal, 0/4-20 mA signal, remote connect/disconnect, empty tank advance notification, tank-empty notification, and Genibus.

Outputs: 2 programmable relay outputs, 0/4-20 mA scalable signal, and Genibus.

DIMENSIONS/MM

Model	Α	В	С
DDA-FCM XL	284	209	410

FEATURES:

Manual speed control and pulse control (ml/pulse), 0/4-20 mA scalable signal, batch, weekly time programmer and Fieldbus (optional).

Slow Mode system, auto-deaeration on standby, calibration, event logging, and selectable alarm outputs.

Pressure control with selective malfunction diagnostics. Real-time flow rate measurement and automatic flow rate setting feature.

MATERIALS:

Dosing head and valves: PVC or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



High flow rate digital membrane dosing pump, with a stepper motor and electronic stroke control and adjustment system with a high turn-down ratio (1:800). Its simple interface allows easy use and control of the pump.

Flow rate (I/h) Max. p. Stroke v. Model Code Materials (bar) (cm³) min. max. DME-AR 375 PP 10021613 0.5 375 10 39.1 PP/V/C DME-AR 940 PP 10021619 1.2 940 4 97.9 PP/V/C DME-AR 375 PV 10021653 10 PV/T/C 0.5 375 39.1 DME-AR 940 PV 10021659 1.2 940 4 97.9 PV/T/C

Does not include installation kit

CHARACTERISTICS:

Supply voltage: $100\text{-}240\,\text{V} \pm 10\%, 50/60\,\text{Hz}.$ Power: $240\,\text{W}.$ Accuracy: dosing flow $< \pm 1\%, \text{ linearity} < \pm 1\%.$ Noise level: $\pm 70\,\text{dB}(\text{A}).$ Max. height of suction: $6\,\text{m with water}.$ Max. viscosity: up to 3000 cP (with spring valves and Slow Mode program, check). Max. environmental and working temperature: $45\,^{\circ}\text{C}.$

GENERAL INFORMATION:

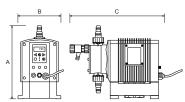
Motor: dynamic stepper motor with transmission.
Strokes per minute: 160.

Protection: IP65.

Suction and propulsion connections: Rp 11/4" thread Divider: yes (auto dosing in ml). Multiplier: yes (auto dosing in ml). Inputs: contact signal, 0/4-20 mA signal, remote connect/disconnect, empty tank advance notification, tank-empty notification, and Profibus. (AP model only). Outputs: alarm relay and dosing pump output (NPN).

FEATURES:

Manual speed control and pulse control (ml/pulse), 0/4-20 mA. Slow Mode anti-cavitation system, calibration, multilingual menu, capacity restrictor and totalizers. Programmable alarm reset.



DIMENSIONS/MM

Model	Α	В	C
DME-AR	364	238	540

MATERIALS:

Dosing head and valves: PP or PVDF (PV). Valve seat: Viton (V) or PTFE (T). Seal: Viton (V) or PTFE (T). Valve ball: ceramic. Membrane: PTFE.



DME-AR

ADVANCED

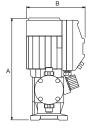
Constant dosing pump with manual adjustment from 10 to 100% of the nominal flow rate. Dosing ratio of 1:10.

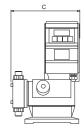
Model	Code	Flow ra	ate (l/h)	Max. p.	Stroke v.	Materials	
Wodel	Code	min.	max.	(bar)	(cm³)	waterials	
DMX 14 PVC	10021721	1.4	14	10	3.8	PVC/V/G	
DMX 35 PVC	10021723	3.5	35	10	4.9	PVC/V/G	
DMX 50 PVC	10021725	5.0	50	10	6.9	PVC/V/G	
DMX 75 PVC	10021727	7.5	75	4	10.4	PVC/V/G	
DMX 132 PVC	10021821	13.2	132	10	18.5	PVC/V/G	
DMX 199 PVC	10021822	19.9	199	8	18.5	PVC/V/G	
DMX 321 PVC	10021823	32.1	321	6	44.6	PVC/V/G	
DMX 765 PVC	10021827	76.5	765	3	73	PVC/V/G	

Does not include installation kit.

DIMENSIONS/MM

Model	Α	В	C								
DMX 14/35/50	319	275	175								
DMX 75	319	323	175								
DMX 132/199	372	440	222								
DMX 321	372	453	222								
DMX 765	390	498	222								





CHARACTERISTICS:

Supply voltage: Three-phase 230/400, 50/60 Hz (standard).

Single-phase 220-240, 50/60 Hz (optional)

Power: 90 W (from DMX 14 to DMX 75) and 370 W (from DMX 132 to DMX 765).

Accuracy: dosing flow $< \pm$ 1.5%, linearity $< \pm$ 4%.

Max. height of suction: 4 m (exception: 2 m in the DMX 75 and DMX 765 models). Max. viscosity: up to 100 cP

(exception: up to 10 cP in the DMX 765 model).

GENERAL INFORMATION:

Motor: three-phase motor. Strokes per minute: 120 (DMX 14: 63 n/min. and DMX 190/765: 175 n/min). Protection: IP65.
Multiplier/divider: no.
Automatic deaeration: no.
Suction and propulsion
connections:
Flexible pipe in PVC 6/12 DN8
(from DMX 14 to DMX 50).
Flexible pipe in PVC 13/20 DN15
(from DMX 75 to DMX 199).
Check DMX 321 and DMX 765
models.

STANDARD MATERIALS:

Dosing head: PVC. Body of the valve: PVC. Valve seat: Viton (V). Seal: Viton (V). Valve ball: glass (G). Frame: aluminum. Dosing membrane: NBR, covered with PTFE (T).

DMX CONSTANT



INSTALLATION KIT



SUCTION SET

Model	Code	Description
AS DN4/8 PV	10023001	Suction valve DN4/8 PV/C
AS DN4	10023004	Suction set DN4 HDPE/V,E/C
AS DN4 SONDA	10023104	Suction set DN4 HDPE/V,E/C + probe
AS DN8	10023008	Suction set DN8 HDPE/V,E/C
AS DN8 SONDA	10023108	Suction set DN8 HDPE/V,E/C + probe
AS DN 15/20	10023015	Suction valve DN15/20 HDPE/V,E/C
AS DN 15/20 PV	10023016	Suction valve DN15/20 PV/T/C
AS DN4/8 C500	10023508	500 mm suction line DN4/8 HDPE/V,E/C + probe
AS DN4/8 C690	10023509	690 mm suction line DN4/8 HDPE/V,E/C + probe
AS DN4/8 C980	10023510	980 mm suction line DN4/8 HDPE/V,E/C + probe
AS DN4/8 C1100	10023511	1100 mm suction line DN4/8 HDPE/V,E/C + probe
AS DN15 C500	10023515	500 mm suction line DN15 HDPE/V,E/C + probe
AS DN15 C690	10023516	690 mm suction line DN15 HDPE/V,E/C + probe
AS DN15 C980	10023517	980 mm suction line DN15 HDPE/V,E/C + probe
AS DN15 C1200	10023518	1200 mm suction line DN15 HDPE/V,E/C + probe
ADAPT A	10023500	Suction line adapter 20/60 Bottle (yellow)
ADAPT N	10023501	Suction line adapter S56x4 200 l drum (orange)
ADAPT RSL	10023502	Line adapter IBC cap 150mm with G2" thread (black)

INJECTION VALVE

Model	Code	Description
IN DN4/8 PP	10023407	Injection valve DN4/8 PP/E/C
IN DN4/8	10023408	Injection valve DN4/8 PVC/V/C
IN DN4/8 CIO2	10023409	Injection valve DN4/8 PVC/T/C CIO ₂
IN DN4/8 PV	10023405	Injection valve DN4/8 PV/T/C
IN DN15/20 PP	10023414	Injection valve DN15/20 PP/E/C
IN DN15/20	10023415	Injection valve DN15/20 PVC/V/C
IN DN15/20 PV	10023416	Injection valve DN15/20 PV/T/C

OTHERS

Model	Code	Description
CB4/2	10028010	Contact and analog wire, 4 pins, 2 m.
CB2 RELE	10028015	Output wire, 2 relays, 4 pins, 2 m.
MFV DN4	10023304	Multifunction valve DN4 PVC/V
MFV DN8	10023306	Multifunction valve DN8 PVC/V
VSP DN4/8	10023308	Back-pressure valve DN4/DN8 PVC/V
VSP DN15/20	10023315	Back-pressure valve DN15/20 PVC/V
E-BOX150	10023800	E-Box 150 interface Profibus DP for DDA
E-BOX200	10023801	E-Box 200 interface Profibus RTU for DDA
E-BOX500	10023802	E-Box 500 interface Ethernet for DDA
AVIS/RJ 230E	10023901	Exterior level warning device for suction line



Advanced technology since 1999

Grundfos was the first manufacturer to use the Digital Dosing™ technology in 1999. Our SMART Digital membrane dosing pumps offer clear benefits when compared to dosing pumps based on traditional technology, like, for instance, adjustment of the stroke length/frequency with synchronous motors or solenoid drivers. Our powerful motors with variable speed steps have internal stroke speed control for perfect, continuous dosing, as well as an impressive reduction ratio.



Taking on the challenge of dosing difficult liquids

With SMART Digital, the dosing of liquids that degas, or are very viscous, is extremely easy. The auto-purging feature, available on several models, stops the chemical products that degas from causing a build up of vapor which could block the dosing process. Furthermore, with the SlowMode feature, the extremely viscous liquids can be dosed without obstructing the pump. In fact, some SMART Digital models can dose liquids with a viscosity of up to 3000 mPas

Several control modes

All SMART Digital pumps include different control variants to select a solution best-suited to their applications. That is why they feature anything from the simple and user-friendly start/stop buttons, to the advanced remote communication and auto diagnostic features.

Auto Flow Adapt smart function

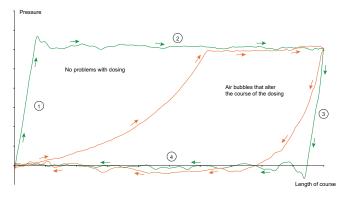
When activating this feature, the pump controls the liquid dosing process. There are several possible outcomes from this process, such as the appearance of air bubbles, which, although they do not stop the pump from working, may cause a reduction in flow volume and may even cause a stoppage in the dosing process.

The FlowControl feature, designed to optimize the safety and reliability of the process, instantly detects and indicates the following situations:

- excess pressure;
- a leak or rupture in the exhaust pipe;
- air bubbles in the dosing head;
- cavitation at the end of the suction pipe;
- a leak in the suction valve;
- · a leak in the exhaust valve.

The exclusive FlowControl feature works thanks to a smart sensor which requires no maintenance and is installed in the dosing head. During the dosing process, the sensor measures the real-time pressure and sends the measurement to the pump's microprocessor. This sensor creates an internal indicating graph by combining the real-time pressure value with the membrane position (stroke length). Through this graph, the dosing process is monitored, and any errors can be detected immediately thanks to the curve's specific deviation. The air bubbles, for instance, will reduce the exhaust phase and the stroke volume (see diagram).

The sensitivity parameters and delay of the FlowControl feature can be individually adjusted. FlowControl requires a minimum 2-bar counter-pressure. Grundfos recommends an additional counter-pressure valve (approx. 3 bar) on the exhaust side for low dosage capacities (<1 l/h).



- Compression phase
 Exhaust phase
- Expansion phase
- 4. Suction phase

SUMMARY OF FUNCTIONS

			2			Q		
	DI	DA .	DI	DC	DDE		DDA XL	
Control variant	FCM	AR	AR	Α	Р	В	FCM	AR
Operating modes								
Manual speed control	х	Х	Х	Х	Х	Х	Х	Х
Pulse control in ml/pulse	Х	Х	Х	Х			Х	Х
Pulse control (1:n)					Х			
Analog control 0/4-20 mA	Х	Х	Х				Х	Х
Batch control (pulse-based)	Х	Х					Х	Х
Dosing cycle timer	Х	Х					Х	Х
Weekly dosing timer	Х	Х					Х	Х
Fieldbus control (optional)	Х	Х					Х	Х
Features								
Automatic deaeration even when the pump is on standby	х	Х					Х	Х
FlowControl system with selective malfunction diagnostics	Х						Х	
Pressure monitoring (min./max.)	Х						Х	,
Flow rate measurement	Х						Х	
AutoFlowAdapt	Х						Х	
SlowMode (anti-cavitation)	Х	Х	X	Х			Х	Х
Calibration mode	Х	X	X	Х			Х	Х
Scaling of analog input	Х	Х					Х	Х
Maintenance information screen	Х	Х	Х	Х			Х	Х
Relay setting: alarm, notification, stroke signal, and dosing pump	X	Х	X				Х	Х
Relay setting (additional): cycle timer, weekly timer	X	Х					Х	Х
Inputs/outputs		71						7.
Input for external stop	х	Х	Х	Х	Х		Х	Х
Input for pulse control	X	Х	X	X	Х		Х	Х
Input for analog control of 0/4-20 mA	X	X	X				X	Х
Input for low level signal	X	X	X	Х			X	Х
Input for empty tank signal	X	Х	X	Х	Х		Х	Х
Programmable relay output (2 units)	X	X	X				X	X
Alarm relay output								
Analog output 0/4-20 mA	Х	Х					Х	Х
Input/output for GeniBus	X	X					X	X
Input/output for E-box (Profibus DP or additional alarm relays)	X	X						
Input/output for CIU (Profibus DP or additional alarm relays)	,,	,,					Х	Х

SUMMARY OF FUNCTIONS

	DDI	E XL	DME		DDI	DMX
Control variant	AR	В	AR	В	AR	В
Operating modes						
Manual speed control	Х	Х	Х	Х	Х	х
Pulse control in ml/pulse			Х		Х	
Pulse control (1:n)	Х					
Analog control 0/4-20 mA	Х		Х		Х	
Batch control (pulse-based)			Х		Х	
Dosing cycle timer			Х		Х	
Weekly dosing timer						
Fieldbus control (optional)						
Features						
Automatic deaeration even when the pump is on standby						
FlowControl system with selective malfunction diagnostics						
Pressure monitoring (min./max.)						
Flow rate measurement						
AutoFlowAdapt						
SlowMode (anti-cavitation)			Х	Х	Х	
Calibration mode			Х	Х	х	
Scaling of analog input			Х		Х	
Maintenance information screen			Х	Х	Х	
Relay setting: alarm, notification, stroke signal, and dosing pump	Х		Х		Х	
Relay setting (additional): cycle timer, weekly timer						
Inputs/outputs						
Input for external stop	Х		Х		Х	
Input for pulse control	Х		Х		х	
Input for analog control of 0/4-20 mA	Х		Х		х	
Input for low level signal	Х		Х		Х	
Input for empty tank signal	Х		Х		Х	
Programmable relay output (2 units)	Х				Х	
Alarm relay output			Х			
Analog output 0/4-20 mA					Х	
Input/output for GeniBus						
Input/output for E-box (Profibus DP or additional alarm relays)						
Input/output for CIU (Profibus DP or additional alarm relays)						



CHEMICAL RESISTANCE TABLE

This resistance table serves merely a general guide of the resistance of materials (at ambient temperature), and it is not a substitute for true tests on the chemical substances and materials of the pumps under specific working conditions.

The data indicated is based on information collated from various available sources. However, it should be remembered that there are many factors (purity, temperature, abrasive particles, etc.) that may affect the chemical resistance of a certain material.

			Material								
Pumped	liquid (at 20 °C)			Dosin	g head			Seal		Ball	Acc.
Description	Chemical formula	Concentration (%)	PP	PVDF	SS 1.4401	PVC	FKM	EPDM	PTFE	Ceramic	PE
		25	•	•	•	•	_	•	•	•	•
Acetic acid	CH ₃ COOH	60	•	•	•	•	_	•	•	•	•
		85	•	•	0	-	_	_	•	•	-
Aluminum chloride	AICI3	40	•	•	_	•	•	•	•	•	•
Aluminum sulfate	Al2(SO4)3	60	•	•	•	•	•	•	•	•	•
Ammonium hydroxide	NH4OH	28	•	•	•	•	_	•	•	•	•
Calcium hydroxide*7	Ca(OH)2		•	•	•	•	•	•	•	•	•
Calcium hypochlorite	Ca(CIO)2	20	0	•	_	•	•	•	•	•	•
		10	•	•	•	•	•	•	•	•	•
Chromic acid	H2CrO4	30	_	•	-	•	•	0	•	•	•
		50	_	•	_	•	•	_	•	•	•
Copper sulfate	CuSO ₄	30	•	•	•	•	•	•	•	•	•
Ferric chloride*3	FeCl ₃	100	•	•	_	•	•	•	•	•	•
Ferric sulfate*3	Fe2(SO4)3	100	•	•	0	•	•	•	•	•	•
Ferrous chloride	FeCl ₂	100	•	•	_	•	•	•	•	•	•
Ferrous sulfate	FeSO ₄	50	•	•	•	•	•	•	•	•	•
Hexafluorosilicic acid	H ₂ SiF ₆	40	•	•	0	•	_	0	•	•	•
	HCI	< 25	•	•	_	•	•	•	•	•	•
Hydrochloric acid		25-37	•	•	_	•	•	0	•	•	•
Hydrogen peroxide	H2O2	30	•	•	•	•	•	•	•	•	•
,		30	•	•	•	•	•	•	•	•	•
Nitric acid	HNO ₃	40	0	•	•	•	•	_	•	•	•
		70	_	•	•	_	•	_	•	•	0
Peracetic acid	CH ₃ COOOH	5-15	0	•	0	0	_	0	•	•	0
Potassium hydroxide	КОН	50	•	_	•	•	_	•	•	•	•
Potassium permanganate	KMnO4	10	•	•	•	•	0	•	•	•	•
Sodium chlorate		30	_		•						•
Sodium chloride	NaClO ₃	30	•	•	_	•	•	•	•	•	•
Sodium chlorite	NaClO ₂	20	•	•	_	0	•	•	•	•	•
30didili Cilorite	INACIO2										
Sodium hydroxide	NaOH	30 50	•	•	•	•	0	•	•	•	•
Codium hypochlarita	NaCIO		•	•	•	•	_	•	•	•	•
Sodium hypochlorite Sodium sulfide	NaCIO	12-15	_	•	_	•	•	•	•	•	•
	Na2S	30	•	•	•	•	•	•	•	•	•
Sodium sulfite	Na2SO3	20	•	•	•	•	•	•	•	•	•
Sodium thiosulfate	Na2S203	10	•	•	•	•	•	•	•	•	•
Sulfurous acid	H ₂ SO ₃	6	•	•	•	•	•	•	•	•	•
a. 15		< 80	•	•	_	•	•	0	•	•	•
Sulfuric acid* ⁴	H2SO4	80-96	0	•	_	•	•	_	•	•	_
		98	_	•	•	_	0	-	•	•	_

Resistant



^{*3} Risk of crystallization.

 $[\]bigcirc$ Limited resistance

^{*} Reacts violently with water and generates a great deal of heat (the pump must be completely dry before using it to dispense sulfuric acid).

⁻ Not resistant $*^7$ When the pump stops, the calcium hydroxide sediments quickly.