Smart Digital

GRUNDFOS **DDA/DDC/DDE**

The SMART Digital DDA, DDC and DDE models with powerful variable-speed stepper motors bring state-of-the art technology to perfection. Expert knowledge combined with the new patented solutions set the standard for the future. Traditional technologies such as stroke length/ stroke frequency adjustment with synchronous motor or solenoid drive become a thing of the past. The click-stop mounting plate provides unique mounting flexibility, and the entire dosing range up to 8 gph is covered with only a few pump variants.

KEY FEATURES AND BENEFITS

- Modularity: The included click-stop mounting plate is an example of the unique flexibility offered, with only a few variants
- Simplicity: Easy handling and perfect overview and control ensure simple installation, commissioning and operation
- Flow intelligence: The pump monitors the dosing process of liquids when the FlowControl function is activated, for advanced process reliability with accuracy of 1% of setpoint

DDA MODELS

- High-end solution for complex and demanding applications
- Flow and pressure up to 8 gph and up to 232 psi
- Auto-deaeration during pump standby
- Flexible Fieldbus control
- Turn-down ratio 3000:1 with constant 100% stroke length

DDC MODELS

- Optimal price-performance ratio
- Flow and pressure up to 4 gph and up to 145 psi
- Two SlowMode functions (25% and 50%), calibration mode, service display
- External stop, dual-level tank control, 2 relay outputs

DDE MODELS

- Digital Dosing™ even for the low budget segment
- Flow and pressure from 0.0015 to 4 gph and up to 145 psi; two models cover entire range
- Control options: manual control 0.1-100%, pulse in % of stroke volume
- External stop, empty tank control

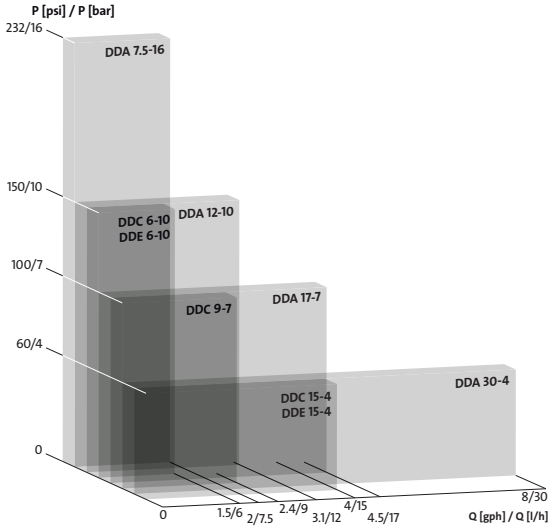
APPLICATIONS

- Disinfection and pH adjustment
- Drinking water, process water and wastewater
- Food and beverage
- Clean-in-place
- Ultrafiltration and reverse osmosis
- Boiler feed water
- Cooling towers
- Coagulation, flocculation, precipitation
- Chemical industry
- Car wash
- Irrigation
- Anywhere chemical treatment and conditioning of water is required

TECHNICAL DATA & FEATURE OVERVIEW

DDA/DDC/DDE	
DOSING HEAD:	PP, PVC, PVDF and Stainless Steel 1.4401
GASKETS:	EPDM, FKM or PTFE
VALVE BALLS:	Ceramics or stainless steel 1.4401 (SS heads only)
CONNECTION SETS (SUCTION / PRESSURE):	Tubing: 1/4", 3/8", 1/2" Threaded: 1/2" MNPT for PP, PVC and PVDF; 1/4"FNTP for SS
MAX FLOW, Q:	8 gph (30 l/h)
MAX PRESSURE, P:	232 psi (16 bar)
TURNDOWN RATIO:	3000:1 or 1000:1
LIQUID VISCOSITY:	max. 2500mPas, depending on model and setup
SUPPLY VOLTAGE:	100-240V, 50-60 Hz
POWER CONSUMPTION:	max. 18 W
WEIGHT:	5.3-8.8 lbs (2.4-4 kg), depending on material
SOUND PRESSURE LEVEL:	60 dB(A)
ENCLOSURE RATING:	IP65, NEMA 4X
APPROVALS:	NSF61, CSA-US

PERFORMANCE RANGE



FEATURE OVERVIEW

PUMP TYPE	DDA			DDC		DDE		
CONTROL VARIANT	**FCM**	**FC**	**AR**	**AR**	**A**	**PR**	**P**	**B**
OPERATION MODES								
Manual speed control	•	•	•	•	•	•	•	•
Pulse control in ml/pulse	•	•	•	•	•			
Pulse control (1:n)						•	•	
Analog control 0/4-20 mA	•	•	•	•				
Batch control (pulse-based)	•	•	•					
Dosing timer cycle	•	•	•					
Dosing timer week	•	•	•					
Fieldbus control	•	•	•					
FUNCTIONS								
Auto deaeration also during pump standby	•	•	•					
FlowControl system with selective fault diagnosis	•	•						
Pressure monitoring (min/max)	•	•						
Flow measurement	•							
AutoFlowAdapt	•							
SlowMode (anti-cavitation)	•	•	•	•	•			
Calibration mode	•	•	•	•	•			
Scaling of analogue input	•	•	•					
Service information display	•	•	•	•	•			
Relay setting: alarm, warning, stroke signal, pump dosing	•	•	•	•		•		
Relay setting (additionally): timer cycle, timer week	•	•	•					
INPUTS/OUTPUTS								
Input for external stop	•	•	•	•	•	•	•	
Input for pulse control	•	•	•	•	•	•	•	
Input for analogue 0/4-20 mA control	•	•	•	•				
Input for low-level signal	•	•	•	•	•	•	•	
Input for empty tank signal	•	•	•	•	•	•	•	
Output relay (2 relays)	•	•	•	•		•		
Output, analogue 0/4-20 mA	•	•	•					
Input/output for GeniBus	•	•	•					
Input/output for E-box (eg. EtherNet/IP)	•	•	•					

CONTROL VARIANTS
FCM: Flow Control Measurment
FC: Flow Control
PR: Pulse Relay
P: Pulse Input
AR: Analog Relay
A: Analog
B: Basic

FIELDBUS CONTROL OPTIONS
Profibus DP (E-Box 150)
Modbus RTU (E-Box 200)
Profinet IO, Modbus TCP or EtherNet/IP (E-Box 500)

In partnership with

EVOQUA WATER TECHNOLOGIES

Visit grundfos.us/pei to learn more about Department of Energy (DOE) pump energy index (PEI) requirements and PEI ratings on specific Grundfos models.

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