

# Submersible Electric Pumps for Dirty Water

## DOC Series



DOC pumps are versatile, corrosion-resistant and compact. Different versions are available with 0.3 to 0.7 kW motor powers. A DOC 7VX version with Vortex impeller is also available.



- The DOC 7VX pump has a capacity of 180 l/min, head up to 7 m, and can handle liquids with suspended solids up to 20 mm in diameter.
- A "shallow-suction device", that can be mounted on both the DOC3 and DOC7 models, is available on request. It ensures complete drainage of flooded floors (to 3 mm from floor).
- Versions:  
Single-phase 220 V 50 Hz 2 poles (2850 rpm).  
Three-phase 380-415 V 50 H 2 poles (2850 rpm).  
60 Hz and floatless (SG) models are available on request.
- The single-phase versions feature:  
Pre-assembled float for automatic pump operation (version without float available on request).  
Built-in capacitor.  
Thermal overload protection to stop pump supply in case of overheating.

### APPLICATIONS

- Emptying of residential sump pits, rainwater tanks or laundry drainage.
- Garden and lawn irrigation, with suction from rainwater tanks.
- Emergency draining of flooded basements, garages and cellars.
- Transfer of water from tanks, cisterns and swimming pools.

### SPECIFICATIONS

- Maximum liquid temperature: 40°C with partially submerged pump.
- Dry motor.
- Maximum immersion depth: 5 m..
- Class B insulation.
- The DOC 3 pump has a capacity of 145 l/min, head up to 7 m, and passes suspended solids up to 10 mm in diameter. Single-phase version only.
- The DOC 7 pump has a capacity of 230 l/min, head up to 11m, and passes suspended solids up to 10 mm in diameter.

### LAB-LIP SEAL SYSTEM

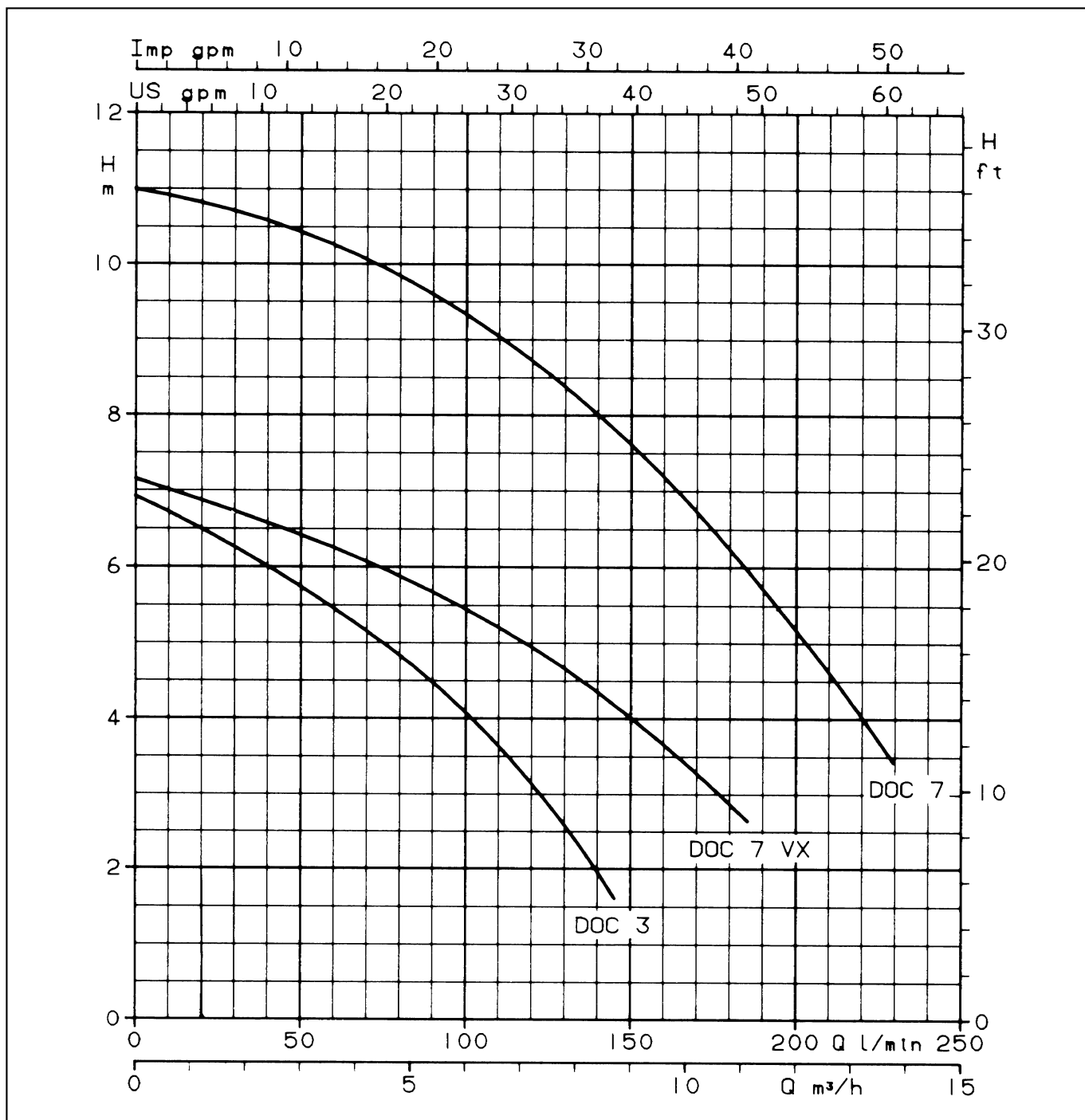
- The electric motor is protected by three lip seals.  
An impeller counterbladesystem keeps solid particles away from the seal unit to prevent damage to the lip seals and ensure their long-lasting efficiency. A double labyrinth and a V-ring on the shaft have also been provided.

### TABLE OF MATERIALS

PART MATERIAL	MATERIAL
Pump body	
Suction screen	
Handle	
Upper support Impeller Outer sleeve Motor Casing	STAINLESS STEEL (AISI 304 - DIN 1.4301)
Lower cover Screws and tie-rods	STAINLESS STEEL (AISI 416 - DIN 1.4005)
Shaft extension Elastomers	NITRILE RUBBER (NBR)

# DOC SERIES

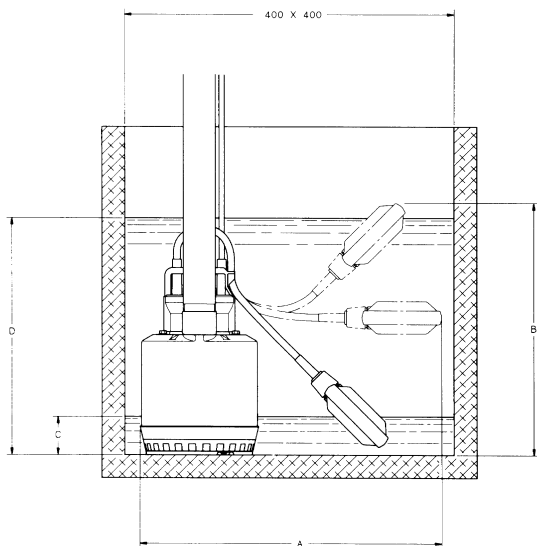
## OPERATING CHARACTERISTICS AT 2850 rpm 50 Hz



PUMP TYPE		kW	HP	ABSORBED POWER		CAPACITOR		ABSORBED CURRENT IN AMP.		Q = DELIVERY											
SINGLE-PHASE 220 V 50 Hz	THREE-PHASE 220-240/ 380-415 V 50 Hz			MONO- FASE	TRI- FASE	µF	V	SINGLE- PHASE 220 V	THREE PHASE 380-415 V	l/min.	25	50	75	100	125	150	175	200	225		
										m³/h	1,5	3	4,5	6	7,5	9	10,5	12	13,5		
										H = TOTAL HEAD METRES COLUMN OF WATER											
DOC 3	–	0,25	0,33	0,31	–	6	450	1,5	–	6,3	5,7	5	4,1	2,8	–	–	–	–	–	–	
DOC 7	DOC 7T	0,55	0,75	0,78	0,7	16	450	3,7	1,4	10,7	10,4	9,9	9,3	8,5	7,6	6,5	5,3	3,7	–	–	
DOC 7VX	DOC 7VXT	0,55	0,75	0,7	0,65	16	450	3,4	1,3	6,8	6,4	6	5,4	4,8	4	3	–	–	–	–	

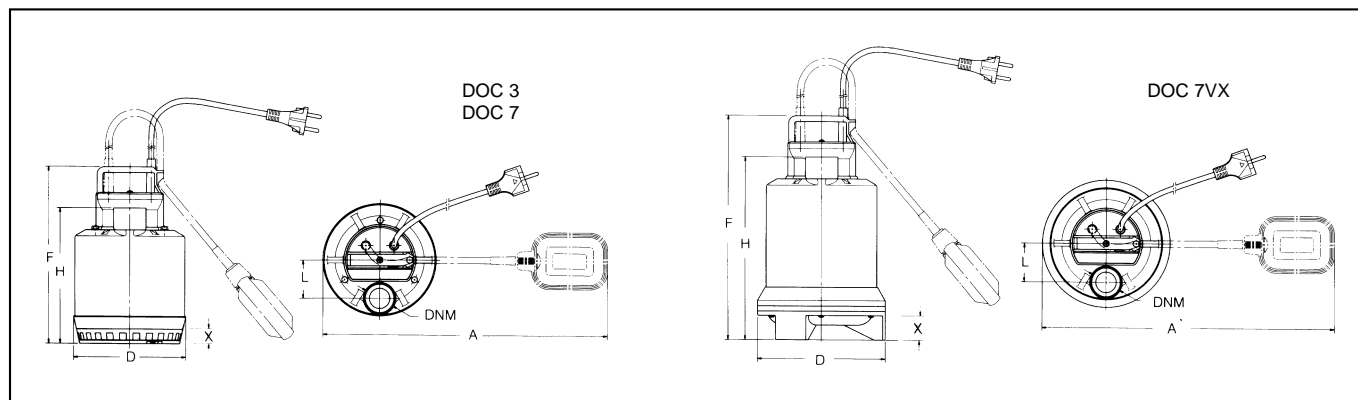
NOTE: single-phase versions without float are marked "SG".  
 Performances meet ISO 2548 specifications for class C standard pumps.  
 These performances are valid for liquids with density  $\rho = 1.0 \text{ kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$

## INSTALLATION DIAGRAM



ELECTRIC PUMP TYPE	DIMENSIONS IN mm		MINIMUM WATER LEVEL	MAXIMUM WATER LEVEL
	A	B	C	D
DOC 3	390	330	50	310
DOC 7	390	370	90	350
DOC 7VX	390	395	115	375

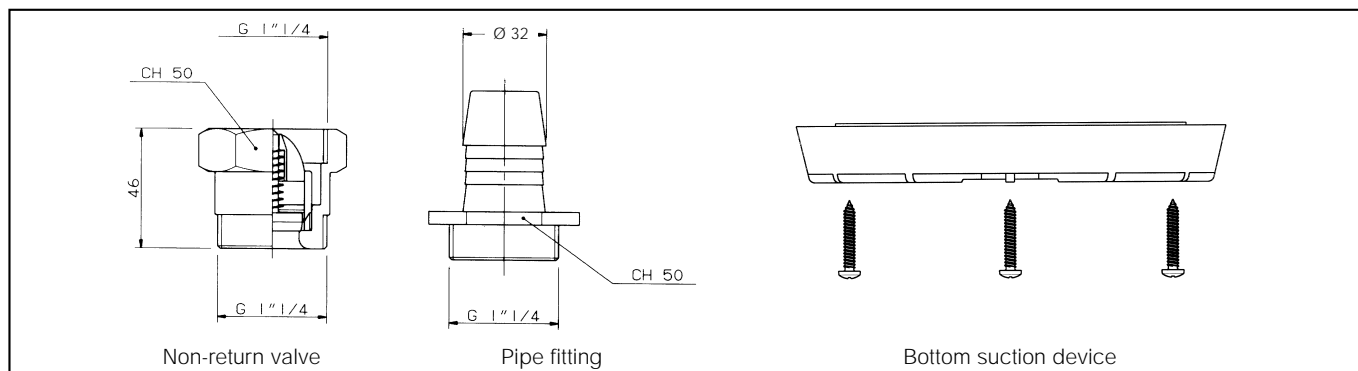
## DOC SERIES DIMENSIONS AND WEIGHTS



ELECTRIC PUMP TYPE	DIMENSIONS IN mm						DNM	WEIGHT
	A	D	F	H	L	X		kg
DOC 3	390	155	245	188	54	20	G 1" 1/4	4
DOC 7	390	155	285	228	54	20	G 1" 1/4	6
DOC 7VX	390	175	310	252	54	50	G 1" 1/4	6

X = Minimum draining level. 3 mm if shallow suction device has been installed on DOC 3 and DOC 7.

## ACCESSORIES



## PUMP SECTION AND LIST OF MAIN COMPONENTS

### 1 Upper head with handle

Made of fiberglass-reinforced Noryl, it houses the capacitor and connection terminals.

### 2 Test hole

The tightness of the motor seals is tested by injecting compressed air (0.5 bar).

### 3 Float

In compliance with European standards

### 4 Cable gland

The float cable can be secured at different lengths to start the pump at the desired liquid level.

### 5 1/4" delivery port

### 6 HO5RN-F type power supply cable

(Version with 10-metre length of HO5RN-F cable is available on request).

### 7 Motor casing with upper bearing housing

AISI 304 stainless steel, single-piece design, no welds.

The liquid circulates around the motor ensuring optimum cooling.

### 8 Capacitor

### 9 Dry wound motor

Class F windings and built-in thermal protector (for single-phase versions).

### 10 External jacket

AISI 304 stainless steel, single-piece design, no welds.

### 11 Pump body

Made of fiberglass-reinforced Noryl.

### 12 Triple lip seal

### 13 Shaft

AISI 416 stainless steel.

### 14 Impeller

Open centrifugal type, made of fibreglass-reinforced Noryl.

The impeller's rear counterblades (14a) centrifuge the solid particles and, together with the ring (14b), protect the seal unit from abrasion.

### 15 Suction screen

Made of reinforced Noryl, it prevents the passage of solids over 10 mm in diameter (20 mm for DOC 7VX). A low suction screen (3 mm) is also available on request.

### 16 Lower cover

- All elastomers are made of nitrile rubber (NBR).
- AISI 304 stainless steel screws and tie-rods.

