

# DRENOX

## SUBMERSIBLE SUMP PUMPS FOR DRAINING CLEAR WATER

The DRENOX series pumps are built entirely in AISI 304 stainless steel. Cooling of the motor is via a heat exchange chamber that allows the machine to work for long periods when not completely submerged. Equipped with Ø 32 mm hose adapter. Automatic version equipped with float switch.



### Applications

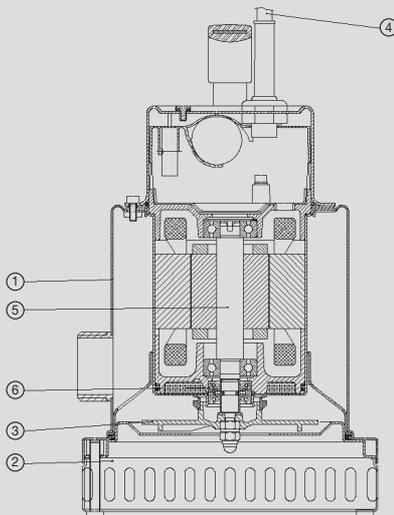
- Drainage of seepage water, pumping of rain water, from a grating or drain, pumping of domestic waste water, drainage of environments, bathing and swimming pools, industrial applications
- Fountains and water features
- Surface irrigation

### Motor

- Dry motor with stainless steel casing
- Level of protection IP68
- Class F insulation
- Single phase power supply with capacitor permanently activated and thermal protection built into the motor winding
- Three phase power supply with external protection provided by the user
- Completely insulated cable connection chamber
- Self-lubricating ball bearings
- Speed of rotation 2850 rpm

### Usage limitations

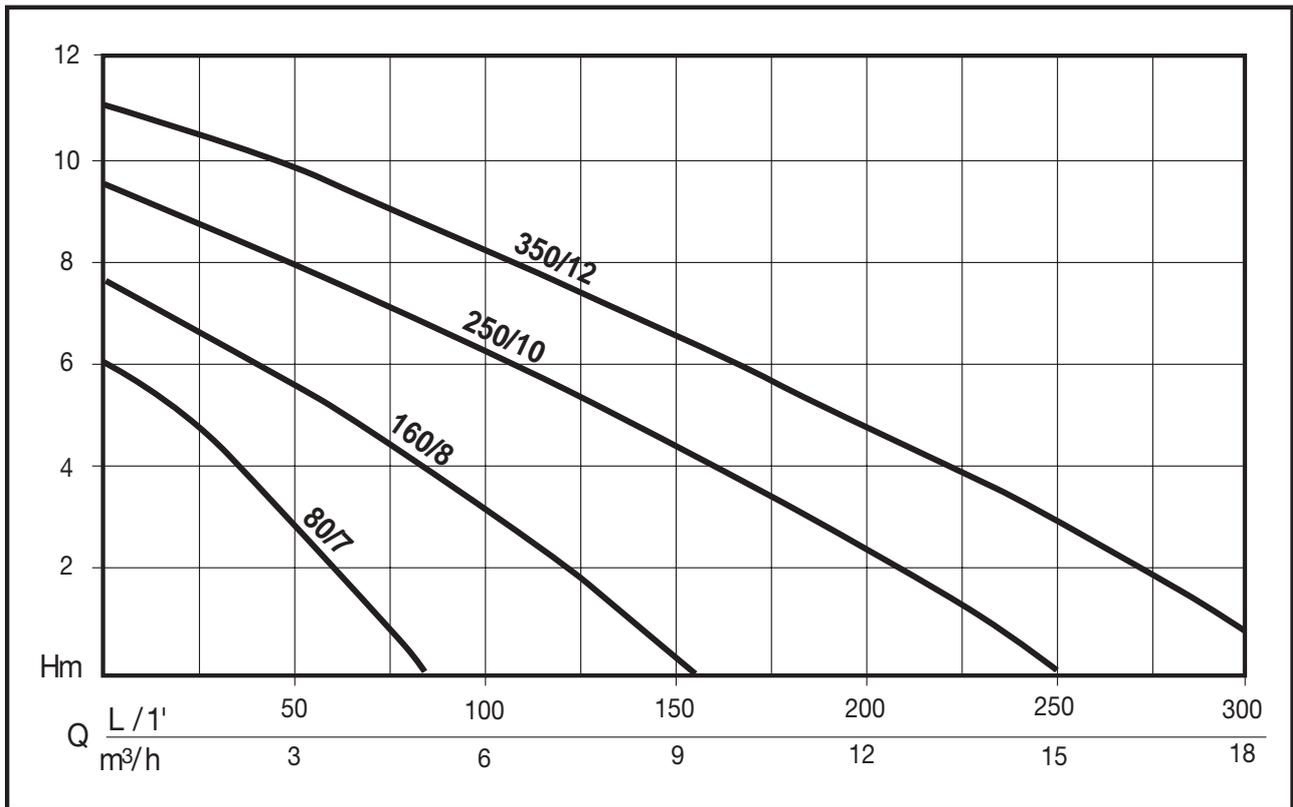
- Type of liquid: partially effluent and dirty clear water, non-aggressive liquids
- Maximum liquid temperature 40°C
- Maximum submersion under the water level 7m
- Minimum drainage level 3 mm for model 80/7, 35 mm for the other models (manual version)
- Free clearance of solids 3 mm for models 80/7, 6 mm for the other models



### DESIGN FEATURES

Component	Material
1 Pump body	X 5 CrNi 1810 (AISI 304) Stainless steel
2 Suction grid	X 5 CrNi 1810 (AISI 304) Stainless steel
3 Impeller	X 5 CrNi 1810 (AISI 304) Cast stainless steel
4 Power cable	10 m H07 RN-F with plug
5 Motor shaft	Stainless steel shaft with a ceramic facing at the points of seal wear
6 Seal	Fixed double NBR 70 rubber seal with special sand guard V-ring. Oil chamber for seal lubrication.

**TABLE OF HYDRAULIC PERFORMANCE**



**PUMP PERFORMANCE**

CODE	MODEL	Nominal power		Absorbed power		VOLTAGE	Amp.	µF.	Q	Discharge head in meters									
		HP	kW	HP	kW					L/1'	10	40	60	80	120	160	240	300	
										m³/h	0,6	2,4	3,6	4,8	7,2	9,6	14,4	18	
N1031090	DRENOX 80/7	0,3	0,2	0,4	0,3	1 ~ 220 ÷ 240 V	1,3	6,3	Discharge head in meters	5,4	3,3	1,8							
N1031100	DRENOX 80/7 AUT																		
N1031020	DRENOX 160/8	0,55	0,40	0,75	0,55	1 ~ 220 ÷ 240 V	2,4	8		7	5,8	5	4,1	2,2					
N1031060	DRENOX 160/8 AUT																		
N1031030	DRENOX 250/10	0,75	0,55	1,2	0,9	1 ~ 220 ÷ 240 V	4,5	10		9,4	8,5	7,6	7,2	5,1	4,0	1			
N1031070	DRENOX 250/10 AUT																		
N1031040	DRENOX 350/12	1,1	0,8	1,6	1,2	1 ~ 220 ÷ 240 V	5,1	16	10,5	10	9,5	9	7,7	6,5	3,4	1			
N1031080	DRENOX 350/12 AUT																		
N1031110	DRENOX 350/12 T	1,1	0,8	1,6	1,2	3 ~ 400 V	2		10,5	10	9,5	9	7,7	6,5	3,4	1			

Automatic version equipped with float switch

## INDEX

**Cap.1-** Features

**Cap.2-** Use and his limitations

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**Notice for safety.**

**Please give particular care to following signs.**



**DANGER**  
Electric shock risk

Improper use may lead into electric shock.



**DANGER**

Improper use may lead into heavy risk for persons and things.



**REMARK**

Improper use may cause damage to pump or installation.

**ATTENTION:** Before installing the pump please carefully read this manual. Guarantee will not be activated in case of improper use.

## CHAP.1 FEATURES

**DRENOX®** range pumps are particularly suitable to pump rain water, drain water; they are used to de-water flooded rooms, to irrigate gardens and back yards, to transfer clear or muddy water, with pumps operating totally or partially immersed.

Each pump is tested and packed very attentively.

**Please ensure pump has not been damaged during transport; if this occurs please phone the dealer, within 8 days from purchasing day.**

## CHAP. 2 USE AND HIS LIMITATIONS



**REMARK**

**Pump cannot be used to move inflammable or dangerous liquids.**



**REMARK**

**Ensure pump never runs dry.**

<u>MAX. TEMP.OF LIQUID:</u> .....	<b>50°C</b> continuous duty
<u>MAX. IMMERSION HEIGHT:</u> .....	<b>7 m</b> with 10 mt. of power cord
<u>MAX. FREE PASSAGE: 80/7:</u> .....	<b>3 mm</b>
<u>MAX. FREE PASSAGE: 160/8, 250/10, 350/12:</u> .....	<b>6 mm</b>
<u>MAX. ON/OFF CYCLES/HOUR:</u> .....	<b>30</b> equally spaced

The linear express measures in chart are in millimeters

Please refer to Pict. 1A and Pict. 1B

TYPE	MIN. PRIMING LEVEL	MIN. DRAINAGE LEVEL	START LEVEL	STOP LEVEL	WEIGHT Kg.
Picture	A	B	C	D	
DRENOX® 80/7	80 mm	3 mm	250 mm	100 mm	5,7
DRENOX® 160/8	96 mm	35 mm	320 mm	107 mm	6,5
DRENOX® 250/10	96 mm	35 mm	351 mm	111 mm	7
DRENOX® 350/12	96 mm	35 mm	351 mm	111 mm	8,5

Pump with less than 10 mt. supply cord cannot be used in open spaces.

The min. priming level refers to completely submerged outlet. (See Pict. 1A-1B ref.A)

DRENOX® 80/7 can drain water up to 3mm. from ground, once pump is priming . (See Pict. 1A ref.B)

### CHAP. 3 INSTALLATION



**DANGER**  
Electric shock risk

**When installing, please ensure pump is disconnected from electric current network.**

Please use handlebar to remove or lift pump up.

Please use a non-return valve in case pump is connected to fixed installation with rigid piping; this will avoid liquid circulating when pump has been turned off; use of a pipe fitting will allow easy disconnection of pump for maintenance.

Dimensions of drain well must allow max. 30 on/off cycles/hour. ( See USE AND HIS LIMITATIONS )

Please use flexible pipe connected to pump by means of plastic fitting in case of temporary use of pump.

Use a rope to immerse pump and fasten it to pump's handlebar.

DRENOX® is equipped with a pre-rated float switch ( See Pict. 1/A and 1/B ); please increase or decrease the free piece of float switch cable by making it sliding through the proper seat on the handlebar, when modifying the rating of float switch.

Pumps used besides or inside swimming pools, garden ponds or similar places may have special requirements.



**REMARK**

**Make sure that float switch turns off pump, when at min. level of liquid.**



**REMARK**

**Make sure no obstacles stand in the way of float switch, during up/down swinging.**

### CHAP. 4 ELECTRIC CONNECTION



**REMARK**

**Ensure tension and frequency of pump ( read motor plate ) and supply network are same.**



**DANGER**  
Electric shock risk

**Installer must make sure that electric current network has ground wire conforming to current laws.**



**DANGER**  
Electric shock risk

**Make sure that electric current network is provided with a high-sensitivity circuit-breaker  $\Delta=30$  mA (DIN VDE 0100T739)**

#### Single phase version

Single phase pumps are equipped with double ground contact plugs at top end of supply cord ; in this case grounding is done when plugging in.

#### Three phase version

In this case the ground wire ( yellow-green cable ) of supply cord must be connected to ground wire of electric current network. Ensure connection to electric current network by using an omnipolar-sectionned magneto thermic circuit-breaker.

This will ensure effective disconnection from electric current network.



### Overload Protection

**DRENOX®** range pumps have a built-in thermal overload with automatic reset.

Further protections are not required.

**DRENOX®** range three phase pumps can be protected by using a magneto-thermic motor protector or a contactor with thermal relay; in both cases they have to be rated conforming to nominal power showed on motor plate.

Eventual electric float switch must be connected to auxiliary connector buckles.

### Rotation direction testing three phase pumps

Water head and delivery are terribly effected by wrong rotation of shaft of pump motor.

Clock wise rotation is correct ( upside view of pump ).

When starting the pump, motor will ungergo an anti-clock wise back-kick.

In this case test is positive; on contrary case, please disconnect pump from network and inverse two phases.

### CONNECTIONS DIAGRAM:

- A) Single phase manual pump
- B) Single phase automatic pump
- C) Three phase pump

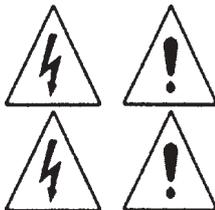
See diagrams Pict.2



See Pict. 2

1) <b>START</b> ( green )	5) <b>SUPPLY CORD</b>	9) <b>WHITE</b>
2) <b>RUN</b> ( red )	6) <b>GROMMET</b>	10) <b>LIGHT BLUE &lt; LINE &gt;</b>
3) <b>COMMON</b> ( black )	7) <b>PLUG</b>	11) <b>BROWN &lt; LINE &gt;</b>
4) <b>CAPACITOR</b>	8) <b>YELLOW-GREEN</b>	12) <b>FLOAT SWITCH</b>

## CHAP. 5 MAINTENANCE AND TROUBLE SHOOTING



**DANGER**  
Electric shock risk

**Before doing any operation, make sure pump is disconnected from electric current network.**

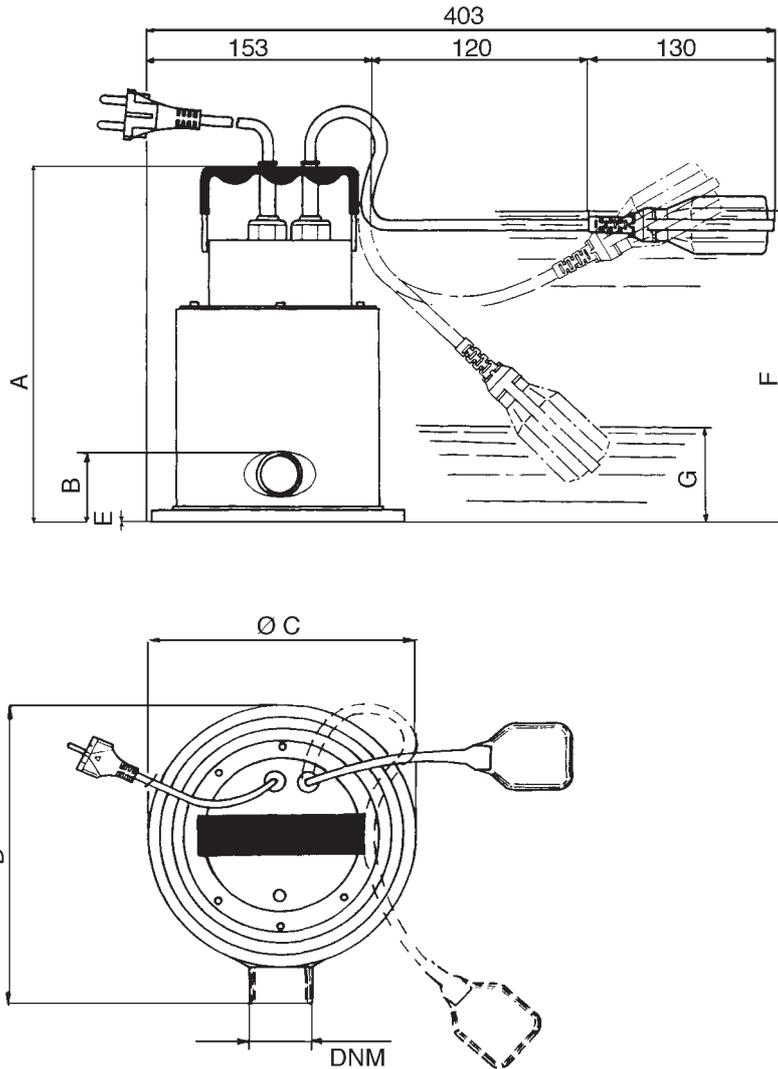
**DANGER**  
Electric shock risk

**Power cord must be replaced by manufacturer or by Customer service, using special tools.**

No maintenance is required when **DRENOX®** range pumps operate in normal conditions. Occasionally maintenance of liquid ends and replacement of impeller may be required.

FAULT	POSSIBLE CAUSE	REMEDY
<b>PUMP DOES NOT DELIVER, MOTOR DOES NOT RUN.</b>	1) No electric current supplying. 2) Incorrect plugging in . 3) Circuit-breaker come into operation. 4) Impeller blocked. 5) Motor or capacitor damaged.	2) Verify presence of electric current supply and plug in. 3) Reinforce circuit-breaker. Please call electrician in case circuit-breaker comes again into operation. 4) Remove obstacle. 5) Call dealer.
<b>PUMP DOES NOT DELIVER, MOTOR RUNS.</b>	1) Filter obstructed. 2) Non return valve blocked.	1) Clean filter. 2) Clean or replace valve.
<b>PUMP DELIVERS REDUCED WATER</b>	1) Filter partially obstructed . 2) Delivery pipe partially obstructed. 3) Impeller worn off. 4) Anticlockwise rotation ( three phase version).	1) Clean filter. 2) Remove obstacles. 3) Replace impeller. 4) Inverse two phases.
<b>INTERMITTENT WORKING (SINGLE PHASE VERSION)</b>	1) Solids obstruct impeller. 2) Too warm liquid. 3) Motor broken.	1) Remove obstacles. 3) Call dealer.

**DRENOX 80/7**

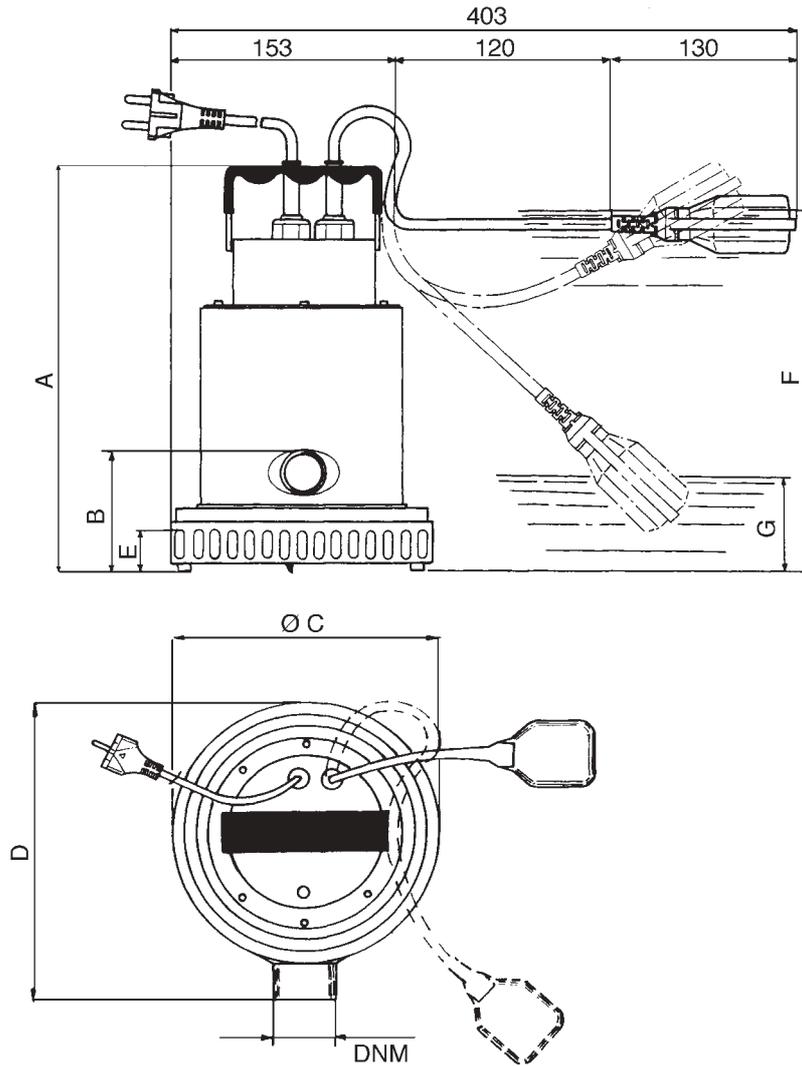


**TABLE OF SIZES AND WEIGHTS**

Model	Dimensions mm.									Weight kg
	A	B	Ø C	D	Minimum drainage level E*	Start level F*	Stop level G*	Free bore ø 3	DNM	
<b>DRENOX 80/7</b>	231	61	177	182	3	250	100	ø 3	1" 1/4	5,7

\* Start and stop level refers to the version equipped with floating switch  
The minimum drainage level refers to the manual version

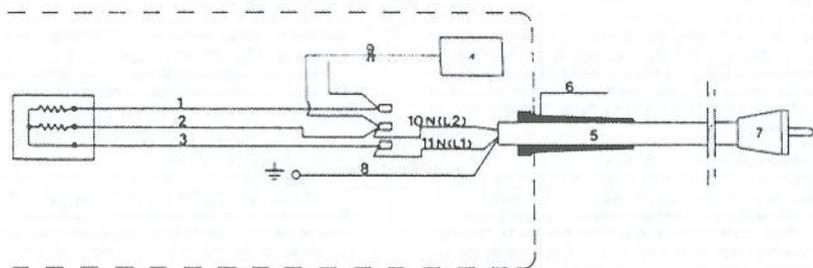
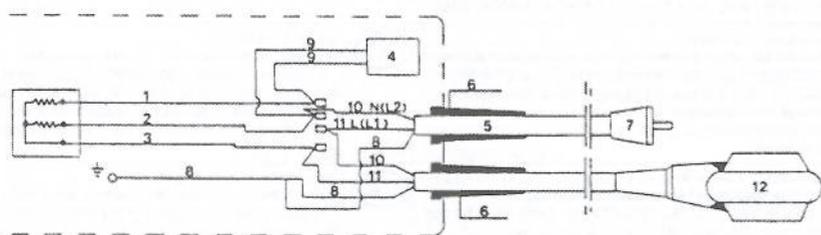
**DRENOX 160/8 - 250/10 - 350/12**



**TABLE OF SIZES AND WEIGHTS**

Model	Dimensions mm.									Weight kg
	A	B	Ø C	D	Minimum drainage level E*	Start level F*	Stop level G*	Free bore Ø 6	DNM	
<b>DRENOX 160/8</b>	300	94	177	182	35	320	107	Ø 6	1" 1/4	6,5
<b>DRENOX 250/10</b>	338	94	177	182	35	351	111	Ø 6	1" 1/4	7
<b>DRENOX 350/12</b>	338	94	177	182	35	351	111	Ø 6	1" 1/4	8,5

\* Start and stop level refers to the version equipped with floating switch  
The minimum drainage level refers to the manual version

**A****2****B****C**