DRENO

ELETTROPOMPE SOMMERGIBILI
SUBMERSIBLE ELECTROPUMPS
ELECTROPOMPES SUBMERSIBLES

Series

Compatta M / T

AM/AT 40 / 50

GM/GT 32 (C.149-150)

ALPHA-V M / T

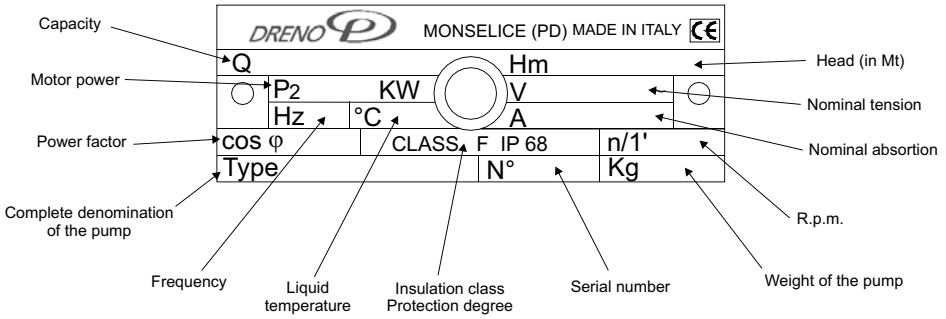
Installation and operating instructions

CE

N° C 10.0

CONTENTS

EXPLANATION PLATE



GUARANTEE

DRENO POMPE guarantees its electropumps and parts, both for the quality and the way they are manufactured.
The manufacturing defects components will be repaired or replaced by DRENO POMPE with charge for labour cost only.
Requests of compensation for direct or indirect damages are not accepted. The electropumps and parts to repair or replace must be sent, complete and without tampering, in DDP (delivery and duties paid), to DRENO POMPE in Via Umbria, 15 Z.I. - MONSELICE (PADOVA) ITALY.
They will be repaired or replaced and delivered to the customer Ex-Works.
The parts subjected to a periodic replacement (ex. impellers, body pump, cables, pipes and similar) are excluded from the warranty, as for their nature and use thay are subjected to a particular wear and tear.
The damages caused by an excessive overload of the motor, by the non-use of the protections inside the electropump, by a wrong installation and by an inadequate maintenance are not covered by warranty.
The guarantee of DRENO POMPE is valid in the following cases :
-The damage is communicated to one of our agents or directly to DRENO POMPE within the period of guarantee of the product ;
-The damage is due to assembling defects, manufacturing defects or materials defects;
-The product has been used exclusively for its purposes;
-The repairs and the maintenance have been executed by qualified technicians or directly by DRENO POMPE ;
-The included protections are properly connected ;
-Only when original DRENO POMPE spare parts are used.
DRENO POMPE guarantees the availability of the spare parts for 5 years after the stop of the production of the product.
The validity of the guarantee is 24 months (for manufacturing defects, electric part excluded) from the date of delivery of the product.
DRENO POMPE S.r.l. reserves the right to introduces changes without notice.

1. Applications

The heavy built portable submersible electric motor pumps “DRENO POMPE” of the series Compatta, Alpha Alpha V, AM-T 40/50 and GM-T 32/2/110, are used in the domestic and industrial field, for pumping of raw and waste waters, stirred sludge, raw sludge, rotten sludge and mixed waters.

Maximum temperature of the pumped liquid **:** + 40°C with the pump completely submerged.

Maximum submersion deph : 20 m

Minimum submersion deph **:** 0,1 m above the body pump

PH-value of pumped liquid : 6 - 11

Liquid density : lower as 1100 kg/m^3.The pumped liquid may contain suspended solid particles up to the diameters allowed by the impeller design :

COMPATTA 1 - 1.5	30mm	ALPHA 1-1.5	10mm	AM-T 40/2/110 C.218 :	14 mm.
COMPATTA 2-3	40mm	ALPHA 2-3	16mm - 19 mm	AM-T 40/2/110 C.219 :	19 mm.
COMPATTA 22-32	50mm	ALPHA 4-5	19mm - 24 mm	AM-T 50/2/110 C.225 :	19 mm.
COMPATTA 4-5-6	50mm	ALPHA 5-6	25mm - 36 mm	AM-T 50/2/110 C.226 :	24 mm
		ALPHA V 2-3	35mm	GM-T 32/2/110 C.149	6 mm
		ALPHA V 4-5	45mm	GM-T 32/2/110 C.150	6 mm
		ALPHA V 5-6	45mm		

The electropump must not be used either in places with danger of explosion or fires, or for pumping inflammable liquid. For different applications of the pump, contact “DRENO POMPE Srl” for information.

2. Technical characteristics

Materials

The construction materials of each component have been chosen with particular attention to obtain high reliability and durability, that will last even in high-stress situations.
The components of the electropumps of the series Compatta, Alpha, Alpha V, AM-T 40/50 and GM-T 32/2/110 C.149-150 have got the motor cover (where foreseen), the motor casing, the intermediate flange, the body pump and the impeller made of cast iron GG 25; the motor shaft of stainless steel AISI420, screws AISI 304, O.Rings of nitrile NBR 70 and the handle of hard nylon. For the GM-T 32/2/110 C.149-150 the grinder part is made of hard stainless steel.

Ball Bearings

The upper and lower ball-bearings are radial with a single row of balls. The ball-bearings are prelubricated and must be changed after a long period of time.

Electric motor

The electric motors are asyncrone 2 poles, monophase or threephase, with squirrel-cage rotor.
For the Monophase tension 230V, the available powers start from 0.28 up to 1.5 kW included, while for the Threephase tensions 400V, the available powers start from 0.28 up to 2.2 kW included.
The frequency is of 50 Hz.(On request we can supply also the 60Hz).
These motors are projected to output the maximum nominal power with variations up to 5 % of the nominal tension.
All the stators are built with insulation class F (155°C) and protection degree IP 68; they can be used with sorrounding liquid temperature of 40°C.
Monophase windings are equipped with thermal overload protection to avoid the motor to rise the limit temperature fixed to 130°C.
The thermal overload protections are bimetallic switches, inserted in the windings, normally closed and rising the temperature of 130°C they open, stopping the power supply of the pump.
When this protections are cooled (75°C) the power supply of the pump start again.
The cooling is provided by the liquid the pump is submerged.

Electric Cable

The standard electric cable is H07RN8F 10 metres long.
The electropump with Monophase motor of the series Compatta, Alpha. AlphaV and AM 40 2 poles have been equipped with Schuko-plug, Compatta 5M, Alpha V 5M, AM 50/2/110 C.225-226 and GM 32/2/110 C.149-150 excluded, as they are supplied with control box, while the Threephase pumps are supplied with free terminals.

Mechanical seals

The series COMPATTA 1-1.5-2-3-22-32-4-5-6, ALPHA 1-1.5-2-3-4-5-6, Alpha V 2-3-4-5-6, AM-T 40/2/110 C.218-219, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150 are equipped with two mechanical seals, in the series AM-T 40/2/110 C.218-219, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150, the two mechanical seals are lubricated in the chamber oil; the upper mechanical seal is a lip seal, while the lower mechanical seal is made of silicon carbide+viton.

Impellers

			
VORTEX	THREE CHANNEL	TWIN CHANNEL	GRINDER
SERIE COMPATTA ALPHA V	ALPHA 1 - 1.5	AM-T 40/2/110 C. 218-219 AM-T 50/2/110 C. 225-226 ALPHA	GM-T 32/2/110 C.149-150

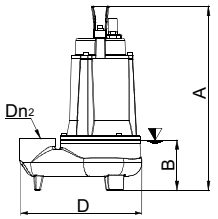
3. Technical datas of series “COMPATTA”, “ALPHA, ALPHA V” “AM-T” 2 Poles and “GM-T” 2 Poles

TYPE	DN	R.P.M	POWER		ABSORPTION			CABLE	WEIGHT
	GAS	min-1	Kw	Hp	1 - PHASE		3 - PHASES		
					230 V	µ F	400 V		
COMPATTA 1 M-T	1" ¼	2850	0.28	0.4	1.9	7,5	0.85	(1) - (2)	11
COMPATTA 1.5 M-T	1" ¼	2850	0.37	0.5	3,5	10	1,2	(1) - (2)	11,5
COMPATTA 2 M-T	1" ½	2850	0.56	0.75	3.2	16	1.7	(1) - (2)	15
COMPATTA 3 M-T	1" ½	2850	0.75	1	4	18	1.8	(1) - (2)	14.5
COMPATTA 22 M-T	2"	2850	0.56	0.75	3.6	16	1.7	(1) - (2)	16.5
COMPATTA 32 M-T	2"	2850	0.75	1	4.4	18	1.9	(1) - (2)	17
COMPATTA 4 M-T	2"	2850	1.1	1.5	7.6	25	2.9	(1) - (2)	19
COMPATTA 5 M-T	2"	2850	1.5	2	9.6	40	3.6	(2) - (3)	21-24
COMPATTA 6 T	2"	2850	2.2	3	/	/	5.2	(3)	24.5
ALPHA - V 2 M-T	1" ½	2850	0.56	0.75	3.4	16	1.6	(1) - (2)	15.5
ALPHA - V 3 M-T	1" ½	2850	0.75	1	4.3	18	1.8	(1) - (2)	16.5
ALPHA - V 4 M-T	2"	2850	1.1	1.5	7.8	25	2.9	(1) - (2)	20
ALPHA - V 5 M-T	2"	2850	1.5	2	9.7	40	3.6	(2) - (3)	21-24
ALPHA - V 6 T	2"	2850	2.2	3	/	/	5.2	(3)	24.5
AM-T 40/2/110 C.218	1" ½	2850	0.56	0.75	3.5	16	1.6	(1) - (2)	18.5
AM-T 40/2/110 C.219	1" ½	2850	0.75	1	4.5	20	2.0	(1) - (2)	19
AM-T 50/2/110 C.225	2"	2850	1.1	1.5	6.1	25	3.0	(3)	22.5
AM-T 50/2/110 C.226	2"	2850	1.5	2	9.6	40	3.5	(3)	26
GM-T 32/2/110 C.149	2"	2850	0.9	1.2	6.0	25	2.5	(3)	25
GM-T 32/2/110 C.150	2"	2850	1.1	1.5	6.5	30	2.8	(3)	25

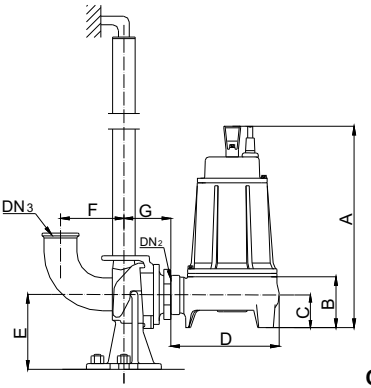
1 **=** Cable H07RN8F 3x1 mm^2 Ø 9 Length 10 m
2 **=** Cable H07RN8F 4x1 mm^2 Ø 10 Length 10 m
3 **=** Cable H07RN8F 4x1.5+2x0.5 Ø 12 mm^2 Length 10 m

4. Overall dimensions

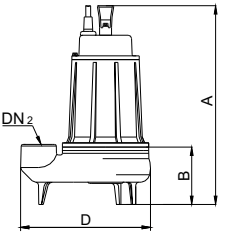
COMPATTA 1-1.5
ALPHA 1-1.5



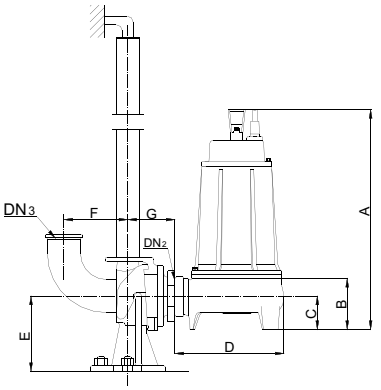
COMPATTA 2-3 / 22-32
AM-T 40/2/110 C.218-219



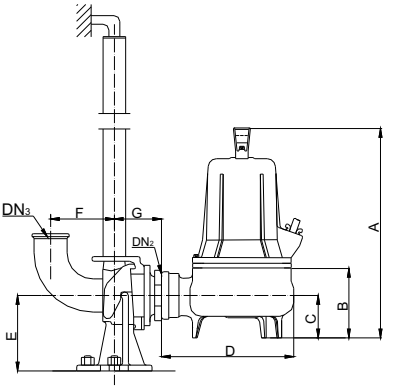
ALPHA 2-3-4-5-6
ALPHA V 2-3-4-5-6



COMPATTA 4-5



COMPATTA 5-6
AM-T 50/2/110 C.225-226
GM-T 32/2/110 C. 149-150



TYPE	A	B	C	D	E	F	G	DN2	DN3
COMPATTA 1 M	304	89	/	202	/	/	/	1"¼	2"
COMPATTA 1.5 M-T	304	89	/	202	/	/	/	1"¼	2"
COMPATTA 2 M-T	368	95	59	191	135	110	95	1"½	2"
COMPATTA 3 M-T	368	95	59	191	135	110	95	1"½	2"
COMPATTA 22 M-T	385	112	74	228	135	110	95	2"	2"
COMPATTA 32 M-T	385	112	74	228	135	110	95	2"	2"
COMPATTA 4 M-T	428	131	74	228	135	110	95	2"	2"
COMPATTA 5 T	428	131	74	228	135	110	95	2"	2"
COMPATTA 5 M	367	150	75	250	135	11	95	2"	2"
COMPATTA 6 T	367	150	75	250	135	11	95	2"	2"
ALPHA 1 M	304	89	/	202	/	/	/	1"¼	2"
ALPHA 1.5 M-T	304	89	/	202	/	/	/	1"¼	2"
ALPHA 2-3 / ALPHA V 2-3	373	104	/	233	/	/	/	1"½	/
ALPHA 4-5 / ALPHA V 4-5	401	105/134	/	267	/	/	/	2"	/
ALPHA 5-6 / ALPHA V 5-6	367	122/162	/	297	/	/	/	2"	/
AM-T 40/2/110 C.218 - 219	359	105	54	195	135	110	95	1"½	2"
AM-T 50/2/110 C.225 -226	340	107	55	235	135	110	95	2"	2"
GM-T 32/2/110 C.149-150	375	143	85	232	135	110	95	2"	2"

5. Installation

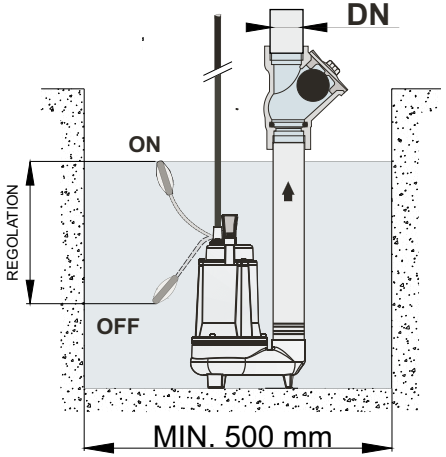
Safety rules

In order to protect yourself during the pump maintenance or installation, you should follow the following rules :
A) It is very important that the installation is executed by qualified technicians ;
B) Do not ignore the dangers for health and observe the sanitary measures;
C) The staff working in pumping stations of dirty waters must be vaccinated against the possible illness which may be transmitted by wounds or only by contact or inhalation;
D) In order to avoid contacts at the epidermis with infected liquids, you may wear suitable clothes and shoes, use also a safety belt, a rope, a helmet, sefety glasses, if necessary a gas-mask;
E) Do not ignore the danger of drowning. Do not work alone, even if the conditions are the best, we recommend the presence of another worker outside the tank ;
F) Provide to mark the area in which you are working by bars and other suitable signals, especially if it is a crossing area.
G) Check the descent and ascent means efficency and the possibilities of a fast return out at the air ;
H) Check that in the tank the oxygen is enough and test the absence of dangerous gases;
I) Before effect any other intervention in the pumping station, pay attention that all the electric cables, present in the tank are switched off ;
L) Check there is not the risk of explosion danger before solding or before executed whatever kind of operation which may produces flames or sparks.
-These installation and operation instructions do not cancel or exclude the standard general rules do not specify in it. All the safety rules and general regulations of good technical paractice must be observed.

For a correct installation

The suction inlet of the pump must be placed in the lowest point of the tank.
Pay attention the pump do not sink in the mud,it must be located on a base or suspended from the bottom.
The electric equipement, set up outside the tank must be protected from all weathers and from whatever kind of gas coming from the tank.

Installation dimension for automatic working



This drawing represent the installation of a pump with automatic installation (with float).
The float is applied directly on the pump only to the monophase pumps, while in the threephase a control panel is absolutely necessary to obtain the automatism.
The float applied to a pump placed in a tank must have enough space to rise freely.
It is recommanded a non return ball valve in the delivery pipes, in order to stop whatever reflux.

6. Electrical connection

All the electrical connections must be executed by a qualified electrician.
The frequency and tension of the net must correspond to those indicated on the pump plate.

ATTENTION : Stop the power supply before opening the electropump.

You can access the connection area, unscrewing the screws that connect the cover to the motor casing in the models Compatta 1-1.5-2-3-22-32-4-5, Alpha 1-2-3-4-5-6, Alpha V 2-3-4-5-6, and AM-T 40/2/110 C.218-219, while for the series Compatta 5M-6T, Alpha-V 5M-6T, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150, we suggest to address to a specialized workshop.

-For the electrical connections, look them up in the schemes.

-In the threephase motors, check the rotation direction of the impeller (see the rotation direction section).

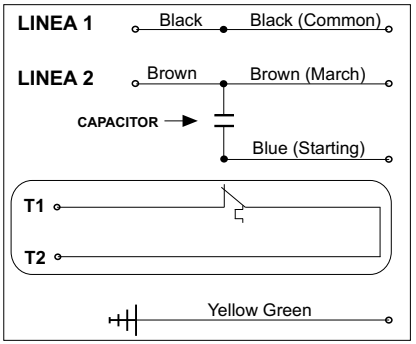
-Never force the pump to work without having found and corrected the cause of bad operation.

-In order to prevent water infiltrations in the pump, when you reassemble the cable, always use a new gasket (cable gland) and be sure that the cable entry gland is perfectly closed.

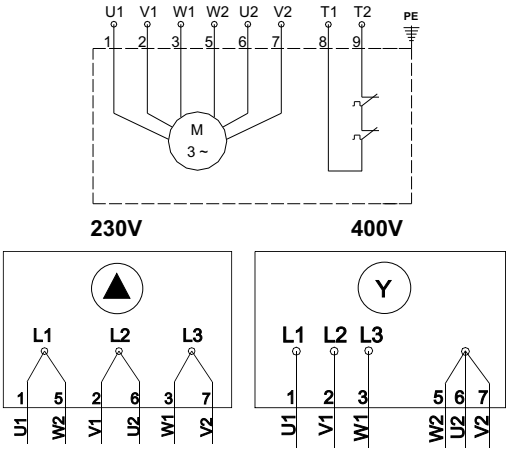
All the electrical connections must be protected against humidity and all joints must be absolutely watertight.

ELECTRICAL DRAWINGS

Monophase motors 230 V 50 Hz



Threephase motors 230/400 V 50 Hz



Motor Protection T1-T2

The models GM-GT 32/2/110 C.149-150, Compatta 5M-6T, Alpha 5M-6T and Alpha V 5M-6T are equipped with thermal detectors T1-T2 in the winding (that must be connected to a control box equipped with suitable protection contacts), which promptly warn and stop the pump when the motor overheats. This safety device is normally closed and opens at a temperature of 130°C, thereby cutting out the pump from its power supply, and closes back only when the temperature reaches 75°C.

Rotation direction *(only for threephase pumps)*

After every new connection, loss of phase or tension, it is probable that the phases are inverted, so check the rotation direction. The wrong rotation direction causes the overheating of the motor, involves strong vibrations and considerably reduces the pump capacity.

To check the right impeller rotation direction you have to tilt lightly the pump and start it.

ATTENTION : keep away from the impeller at the pump starting.

Pay attention at the starting kickback, that may be harmful.

If the pump gives you an anticlockwise (bird's-eye view) kickback when starting, the connection is right, otherwise stop the power supply and invert the two phases.

Seen from the suction inlet, the right impeller rotation is anticlockwise.

Starting kickback

7. Operating rules

Transport

Do not lift the pump by the electric cable, use only the handle provided for the purpose.
In case you have to move it from one place to another, for safety reasons we suggest to stop the power supply.

Below zero temperatures

While working or submerged in the liquid, the pump does not freeze. Removing the pump from the water and exposing it to below zero temperatures, the impeller may be blocked by the freeze.In case the impeller is blocked by the ice, you have to submerge the pump in the water and let the ice melt before starting.
Avoid quick ways to defrost (for example to warm it) to avoid damages to the pump.

Cleaning

If the pump worked with liquid containing solid bodies, when it stops working, let it run a few minutes in clean water. Remove the impurities (mud, stones, etc..) to avoid them drying, bloking impeller and mechanical seal, stopping the pump from working.

Storage

In the case of pump storage :

-Store the pump in places protected from humidity and warm temperature.
-Place it in vertical position, paying attention to its stability just to avoid rollings and falls.

During the storage we suggest to roll the impeller by hand (every two months) to avoid the mechanical seals sticking. If the pump stays stopped in stock for more than 6 months, this rolling became compulsory. Before using the pump again, check the rotor rolls freely, the electric insulation is regular and for the AM-T 40/2/110 C.218-219, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150, the condition and quantity of oil in the chamber are satisfactory.

8. Inspection and maintenance

For your personal safety during a simple inspection

Before work on the pump, check the power supply is disconnected and the pump can not restart, not even accidentally. For personal cleanliness, be sure the pump has been carefully cleaned with water or specified products. If the pump is disassembled it is necessary to use working gloves.

Recommended advices

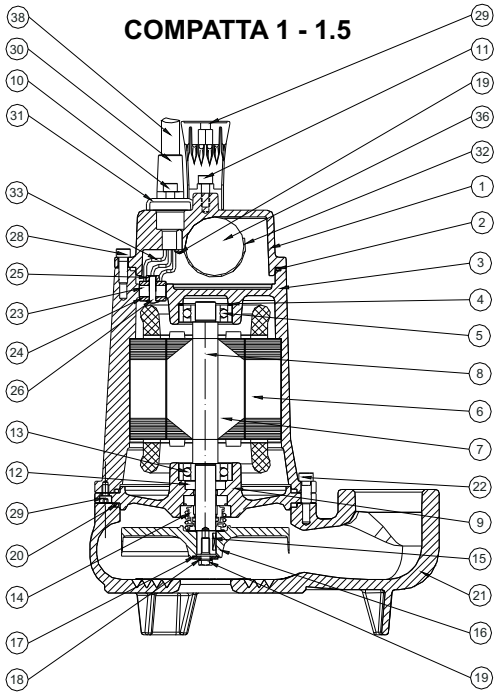
Periodical controls and maintenances are suggested to guarantee a safer future operating.
If the pump is new or if the mechanical seals have been replaced, an inspection is recommended after the first week of working.
The pump must be inspected after 2000 hours of working or at least once a year.
Hard working conditions or occasional use require necessary frequent controls.
A general check must be done on the following points :
- Check there are no infiltrations coming from the cable (in this case replace the cable gland, making sure that screws and bush are perfectly closed).
-Replace the damaged or worn parts.
-Replace the cable in the case it is inflated or its insulation sheating is damaged.
-For the series AM-T 40/2/110 C.218-219, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150 check the level and quantity of oil in the chamber (the charge of oil is complete when its level, with the pump laid on one side is of 1 - 1,5 cm under the hole for the oil cap).

Motor insulation control

Once a year at least or after 4000 hours of working, check the insulation of the motor.
The measurement must be executed at the cable extremities (switch off from the panel) using a megohmmeter.
The test tension is 1000V maximum in continuous tension.
The resistence of the winding towards the earth must be higher than 5 MΩ, otherwise it is neccessary to execute two measurements, one for the cable and the other for the motor.
Take off the cable from the motor and execute the measurements of the winding towards the earth, connecting all the extremities of the winding.
- If the value of insulation of the cable is lower than 5 MΩ, it means the cable is damaged.
- If the motor has low insulation values, this means the winding is brokedown.

9. Electropump sections

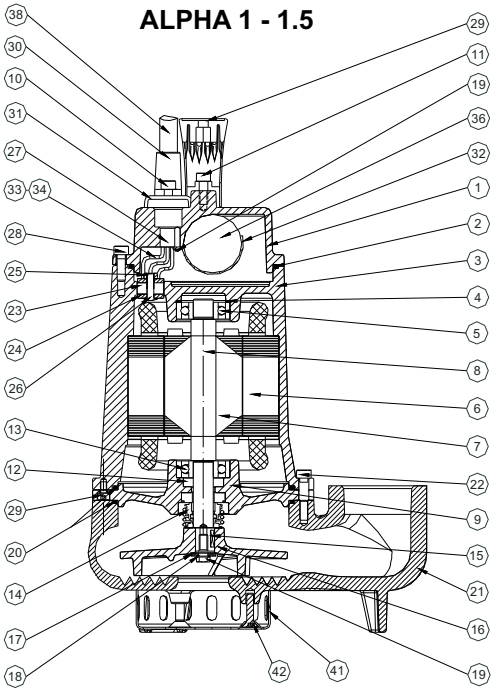
COMPATTA 1 - 1.5



Spare parts list

POS.	DESCRIPTION
1	MOTOR COVER
2	O'RING
3	PUMP CASING
4	COMPENSATING RING
5	BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	BALL BEARING HOLDER
10	SCREW UNI 5931
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	VORTEX IMPELLER (COMPATTA 1-1.5)
17	WASHER
18	FUN WASHER
19	SCREW UNI 5739
20	O'RING
21	PUMP CASING
22	SCREW UNI 5931
23	SEPARATOR CABLE GLAND
24	WASHER CABLE GLAND
25	NUT CABLE GLAND
26	SCREW CABLE GLAND
27	SCREW UNI 5931
28	HANDLE
29	SCREW UNI 5931
30	DOUBLE CABLE GLAND
31	CABLE CLAMP
32	CAPACITOR CLAMP STOP
33	TERMINAL BLUE CAP
36	CAPACITOR
38	CAVO H07RN8F

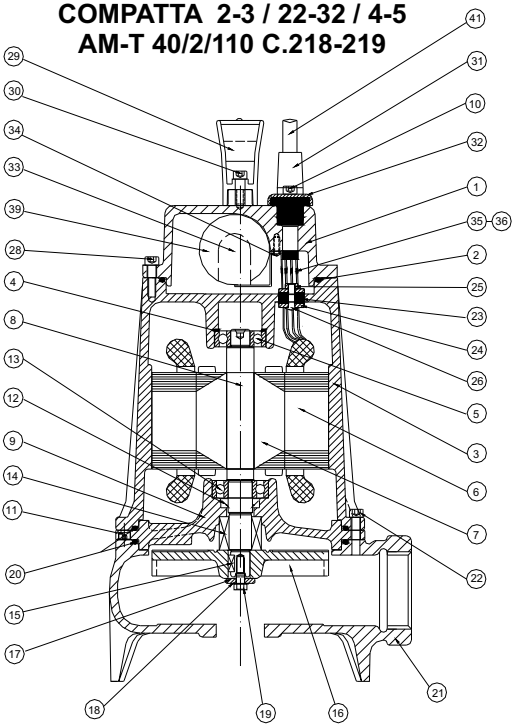
ALPHA 1 - 1.5



Spare parts list

POS.	DESCRIPTION
1	MOTOR COVER
2	O'RING
3	PUMP CASING
4	COMPENSATING RING
5	BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	BALL BEARING HOLDER
10	SCREW UNI 5931
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	THREE CHANNEL IMPELLER (ALPHA 1-1.5)
17	WASHER
18	FUN WASHER
19	SCREW UNI 5739
20	O'RING
21	PUMP CASING
22	SCREW UNI 5931
23	SEPARATOR CABLE GLAND
24	WASHER CABLE GLAND
25	NUT CABLE GLAND
26	SCREW CABLE GLAND
27	SCREW UNI 5931
28	HANDLE
29	SCREW UNI 5931
30	DOUBLE CABLE GLAND
31	CABLE CLAMP
32	CAPACITOR CLAMP STOP
33	TERMINAL BLUE CAP
36	CAPACITOR
38	CABLE H07RN8F
41	STRAINER INOX
42	SCREW UNI 7688

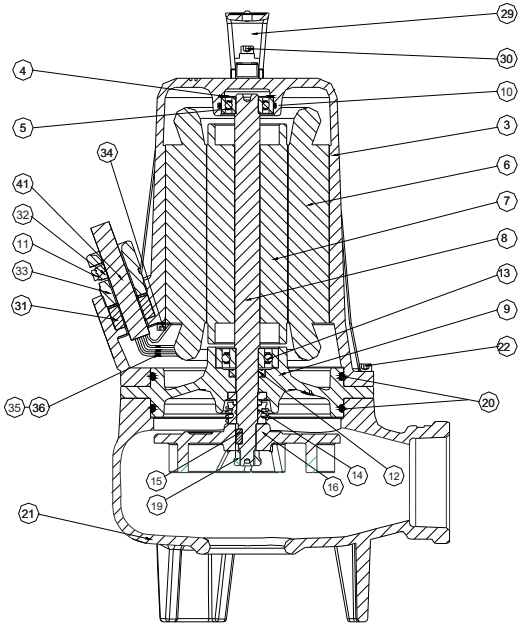
COMPATTA 2-3 / 22-32 / 4-5
AM-T 40/2/110 C.218-219



Spare parts list

POS.	DESCRIPTION
1	MOTOR COVER
2	O.RING
3	MOTOR CASING
4	COMPENSATING RING
5	UPPER BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	INTERMEDIATE FLANGE
10	SCREW UNI 5931
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	VORTEX IMPELLER (SERIES COMPATTA)
16	DOUBLE CHANNEL IMPELLER (SERIES ALPHA/AM-T 40 C.218-219)
17	WASHER
18	FUN WASHER
19	SCREW UNI 5739
20	O'RING
21	BODY PUMP
22	SCREW UNI 5931
24	WASHER CABLE GLAND
25	NUT CABLE GLAND
26	SCREW CABLE GLAND
28	SCREW UNI 5931
29	HANDLE
30	SCREW UNI 5931
31	DOUBLE CABLE GLAND
32	CABLE ENTRY NUT
33	CAPACITOR CLAMP STOP
34	SCREW UNI 7687
35	TERMINAL WHITE CAP
36	TERMINAL BLUE CAP
37	O'RING OIL CAP (ONLY FOR AM-T 40/2/110 C. 218-219)
38	OIL CAP (ONLY FOR AM-T 40/2/110 C. 218-219)
39	CAPACITOR
41	CABLE HO7RN8F

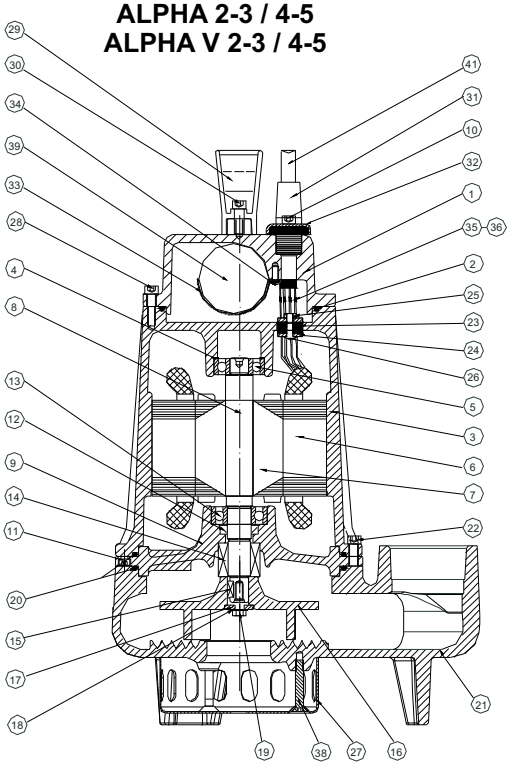
COMPATTA 5M-6T



Spare parts list

POS.	DESCRIPTION
3	MOTOR CASING
4	COMPENSATING RING
5	UPPER BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	INTERMEDIATE FLANGE
10	O'RING
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	VORTEX IMPELLER
19	SELF-LOCKING NUT
20	O'RING
21	BODY PUMP
22	SCREW UNI 5931
29	HANDLE
30	SCREW UNI 5931
31	CABLE GLAND
32	WASHER
33	CABLE ENTRY NUT
34	SCREW UNI 5931
35	TERMINAL WHITE CAP
36	TERMINAL BLUE CAP
41	CABLE HO7RN8F

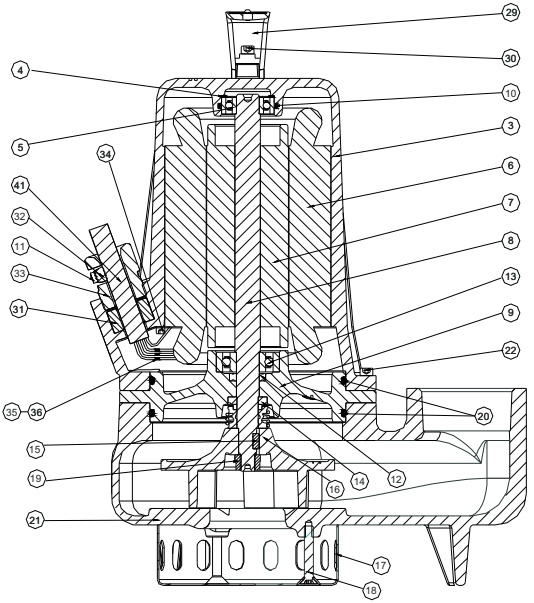
ALPHA 2-3 / 4-5
ALPHA V 2-3 / 4-5



Spare parts list

POS.	DESCRIPTION
1	MOTOR COVER
2	O.RING
3	MOTOR CASING
4	COMPENSATING RING
5	UPPER BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	INTERMEDIATE FLANGE
10	SCREW UNI 5931
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	VORTEX IMPELLER
16	DOUBLE CHANNEL IMPELLER (SERIES ALPHA/AM-T 40 C.218-219)
17	WASHER
18	FUN WASHER
19	SCREW UNI 5739
20	O'RING
21	BODY PUMP
22	SCREW UNI 5931
24	WASHER CABLE GLAND
25	NUT CABLE GLAND
26	SCREW CABLE GLAND
27	STRAINER INOX
28	SCREW UNI 5931
29	HANDLE
30	SCREW UNI 5931
31	DOUBLE CABLE GLAND
32	CABLE ENTRY NUT
33	CAPACITOR CLAMP STOP
34	SCREW UNI 7687
35	TERMINAL WHITE CAP
36	TERMINAL BLUE CAP
38	SCREW UNI 7688
39	CAPACITOR
41	CABLE HO7RN8F

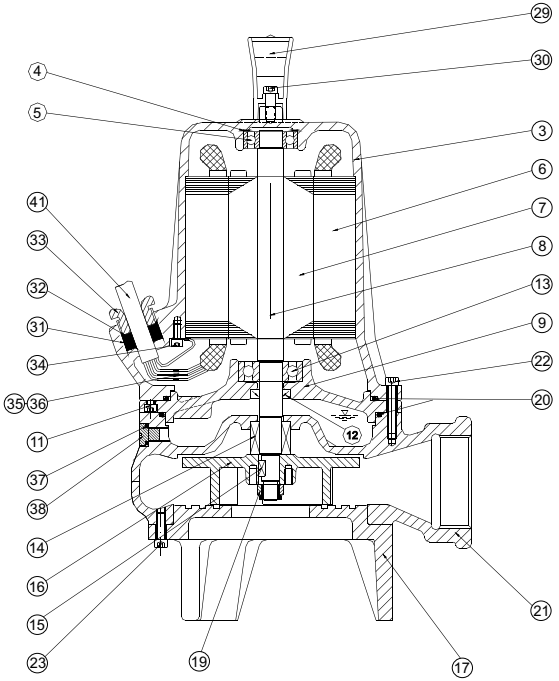
ALPHA 5M-6T
ALPHA V 5M-6T



Spare parts list

POS.	DESCRIPTION
3	MOTOR CASING
4	COMPENSATING RING
5	UPPER BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	INTERMEDIATE FLANGE
10	O'RING
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	DOUBLE CHANNEL IMPELLER
17	STRAINER INOX
18	SCREW UNI 7688
16	VORTEX IMPELLER (SERIES ALPHA V)
19	SELF-LOCKING NUT
20	O'RING
21	BODY PUMP
22	SCREW UNI 5931
29	HANDLE
30	SCREW UNI 5931
31	CABLE GLAND
32	WASHER
33	CABLE ENTRY NUT
34	SCREW UNI 5931
35	TERMINAL WHITE CAP
36	TERMINAL BLUE CAP
41	CABLE HO7RN8F

AM-T 50/2/110 C. 225-226



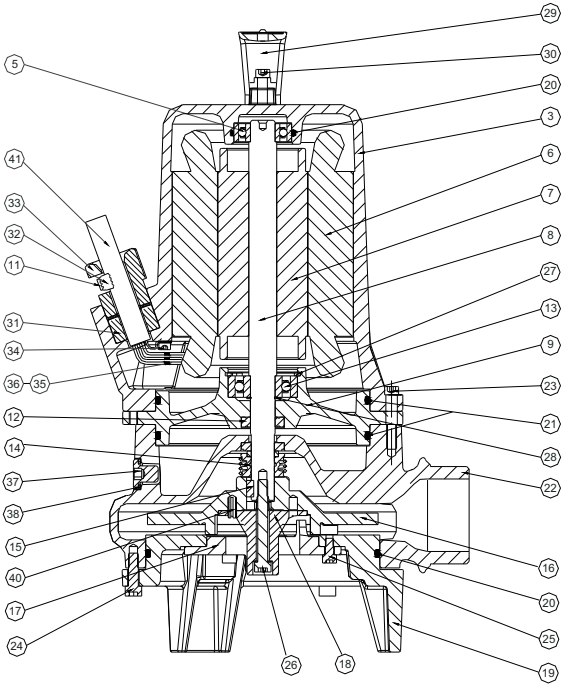
Spare parts list

POS.	DESCRIPTION
3	MOTOR CASING
4	COMPENSATING RING
5	UPPER BALL BEARING
6	STATOR
7	ROTOR
8	MOTOR SHAFT
9	INTERMEDIATE FLANGE
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICHAL SEAL
15	KEY
16	DOUBLE CHANNEL IMPELLER
17	TRIPOD SUPPORT
19	SELF-LOCKING NUT
20	O'RING
21	BODY PUMP
22	SCREW UNI 5931
23	SCREW UNI 5931
29	HANDLE
30	SCREW UNI 5931
31	CABLE GLAND
32	WASHER
33	CABLE ENTRY NUT
34	SCREW UNI 5931
35	TERMINAL WHITE CAP
36	TERMINAL BLUE CAP
37	O'RING OIL CAP
38	OIL CAP
41	CABLE H07RN8F

Quantiy of oil in the chamber

SERIES	QUANTIY OF OIL IN THE CHAMBER	
AM-T 40/2/110 C.218-219	Kg	0,15
AM-T 50/2/110 C.225-226	Kg	0,27
GM-T 32/2/110 C.149-150	Kg	0,45

GM-T 32/2/110 C.149-150



Spere parts list

POS.	DESCRIPTION
3	MOTOR CASING
5	UPPER BALL BEARING
6	STATOR
7\8	ROTOR
8\7	MOTOR SHAFT
9	INTERMEDIATE FLANGE
11	SCREW UNI 5931
12	LIP SEAL
13	LOWER BALL BEARING
14	MECHANICAL SEAL
15	KEY
16	IMPELLER GRINDER
17	FIXED GRINDER PART
18	ROTATING GRINDER PART
19	TRIPOD SUPPORT
20	O'RING
21	O'RING
22	BODY PUMP
23	SCREW UNI 5931
24	SCREW UNI 5931
25	SCREW UNI 5933
26	SCREW UNI 5931
27	CLAMPING RING UNI 7437
28	CLAMPING RING UNI 7435
29	HANDLE
30	SCREW UNI 5931
31	CABLE GLAND
32	WASCHER
33	CABLE ENTRY NUT
34	SCREW UNI 5931
35	TERMINAL WHITE CAP
37	O'RING OIL CAP
38	OIL CAP
40	DOWEL PIN UNI 1707
41	CABLE H07RN8F

10. Impeller replacement:

A) Unscrew the 4 screws that connect the motor casing to the body pump, or the tripod in the case of the , AM-T 40/2/110 C.218-219, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150.

B) Remove the pump body or the tripod.

C) Keeping the impeller blocked, unscrew the hexagonal head screw or the self locking nut, which connect it to the motor shaft.

D) Unscrewing this screw or nut, you can easily remove the impeller.

Before mounting a new impeller, pay attention that the terminal part of the shaft is clean and without imperfections.

11.Lower mechanical seal replacement :

E) Before replacing the mechanical seal, you have to extract the impeller as described at point 10.

F) Using two screwdrivers, remove the old mechanical seal, doing lever on the rotating part first and after on the fixed ring (in the serie AM-T 40/2/110 C.218-219, AM-T 50/2/110 C.225-226 and GM-T 32/2/110 C.149-150 pay attention in positioning the pump,in order to avoid the discharge of the oil from the chamber).

G) Before mounting a new mechanical seal, check the seats are clean, without burrs or rulings, which may damage the mechanical seal or compromise the perfect seal on the shaft.

H) Wet both parties of the mechanical seal with water-soap solution, to insert it easier.

ATTENTION: To push in seat the fixed ring, use a bush (having the same diameter of the shaft), to avoid jammings that can cause the broken of the fixed ring. Follow with the insertion of the rotating part.

M) Now you can insert and fix the impeller and close the pump.

12. Tools

The tools necessary for a normal maintenance of the electropumps are the following :

-Allen screw keys of : 4 and 5 mm

-Cross screwdriver

-2 screwdrivers

-Hexagonal keys of : 8 and 17 mm

13. Troubles and remedies

The pump does not start :

-Loss of electric power supply (check if the fusibles have broken or a protection relay of the circuit intervented);
-The selection switch is turned OFF (turn ON);
-Loss of phase (check the connection);
-The impeller is blocked;
-Mechanical seal or ball bearing seized.

The pump does not stop :

-Failure to the stop regulator (clean or replace the stop regulator).
-The pump is not able to empty the tank till the stop level : there may be leaks in the installation; absence of the non return ball valve, to avoid the liquid reflow ; necessity to replace the pump with another one of bigger capacity.

The pump works, but the delivery is scarce or inexistent:

-The pump works with a wrong rotating direction (this is possible only with threephase motors);
-Check the wear conditions of the hydraulic part, if necessary replace the parts;
-The pump is closed by an air-pocket (switch off the electropump and restart it after few minutes);
-The delivery pipe is obstructed, the non return ball- valves or the sluicegates are in part closed.

INTERVENTIONS RECORDING

MATRICULATION N°:_____

N°	DATE	WORKING HOURS	NOTES	SIGNATURE

EC Declaration of conformity

We, DRENO POMPE SRL, via Umbria, 15, 35043 MONSELICE (PD) - ITALY declare under our full responsibility, that the following products :

COMPATTA 1-1.5-2-3-22-32-4-5-6
ALPHA 1-1.5-2-3-4-5-6
ALPHA V 2-3-4-5-6
AM-T 40/2/110 C.218-219
AM-T 50/2/110 C.225-226
GM-T 32/2/110 C.149-150

which the present declaration refers to, are corresponding to the following directives of the European Union, in terms of safety and health :

- Machinery Directive 2006/42/CE and following amendments.
- Low Tension Directive 2006/95/CE and following amendments.
- Electromagnetic Compatibility Directive 2004/108/CE and Following amendments.

And:

- rule CEI EN 60335-1 ed. 04/1998
- rule CEI EN 60335-2-41 ed. 09/1997
- rule ISO 9906 ed. 1999-12-15
- rule EN 55014-1 ed. 2001
- rule EN 55014-2 ed. 1998
- rule EN 61000-3-2 ed. 2001
- rule EN 61000-3-3 ed. 1997

DATE SIGNATURE

10/02/2010

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