

DODA U.S.A. INC. 255 16TH ST. SOUTH ST.JAMES, MN 56081 P: 507.375.5577 F: 507.375.5578 Www.doda.com admin@dodausa.com

USE AND MAINTENANCE MANUAL VERTICAL ME PUMPS







All right reserved, copyright of this manual only under	li-
cense from DODA i.n.c.	

Data and measures written in this manual are approximate and there may be some changes without warning.

DODA thanks you for buying an item in its production and invites you to read this use and maintenance manual.

You will find within this manual information necessary for correct use and maintenance of the machine you have purchased so please carefully follow the directions.

Please also keep this manual in a safe place for future reference.

The content of this manual may be changed without notice in order to make changes or improvements to units already sold.

No reproduction or translation of any part of the manual is admitted unless authorized.

DESCRIPTION	PAGE
Introduction	1
Machine loading and unloading	2
General remarks	3
Preliminary checks	4
Positioning and Transportation	5
Operation	6
Work and Safety Rules	8
Maintenance	9
Stickers	10
Performance and Technical Data	11
Instructions for dismantling and re-assembling the pump	12
Parts View's	13
A WALUD 1 AU 11 D	

1. INTRODUCTION

The machines described in the following "USE AND MAINTENANCE" manual are a chopping, emulsifying vertical axis pump.

These pumps are used for managing thick and/or non-homogeneous manure.

They are built standard with the following devices:

- double chopping system with blades, counter-blades, rotor, counter-rotor;
- Adjustable agitation nozzle enabling the mixing of the treated substance

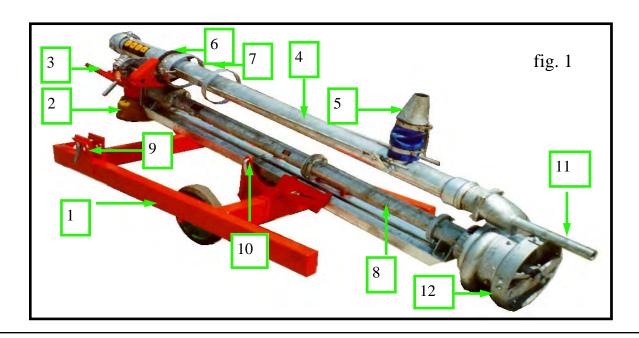
Manufactured in various models with varied performance and power absorption, they are supplied in the following versions: with pto shaft, powered by electric or hydraulic motors.

The galvanized structure, the oil-bath driveline system and the high quality of materials used assure the machines high durability and simple maintenance.

From the technological point of view, the concept adopted for all other DODA products has been applied to this machine, too:

"Highest quality to obtain the maximum reliability and durability."

- 1) Carriage for SUPER 120-150 200
- 2) Gear box
- 3) (Manual) cone orientation crank
- 4) Discharge pipe.
- 5) Adjustable cone for agitation
- 6) Handle for cone vertical movement
- 7) Handle for flow opening and closing
- 8) Driving line
- 9) Two-point connection
- 10) Tightening pin
- 11) Stand off peg
- 12) Chopping pump body







SUPER PUMPS : PTO DRIVEN

ME PUMPS: ELECTRIC DRIVEN



fig. 3

2. MACHINE LOADING AND UNLOADING

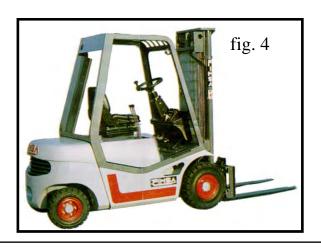
The machine loading and unloading operation can be carried out by: lift truck;

hoisting crane.

 * Make sure the carrying sling or chain used to lift is sufficient to lift the weight of the pump *

WARNING: in either case the machine must not be lifted by the weakest parts of the structure (delivery pipes, etc...).

WARNING: before lifting the structure, be sure that it is well-balanced.



3. GENERAL WARNING

- 1) Check that no components of the pump have undergone damages during transportation. If damages have occurred, contact your DODA dealer immediately.
- 2) The connection to power supply must be carried out according to DODA instructions, by specialized staff (by connecting the cables of the electric motor to the input or the pump to the tractor by means of the pto shaft). DODA is in no way responsible for any electric connection, (please follow instructions on the motor tag as well as on the sticker showing the rotation direction).
- 3) Before starting the machine check that the rotary driving parts are adequately protected, as foreseen by their manufacturer.
- 4) If the protection of a rotary part is not an issue, it must be carried out by the operator in conformity with prevailing law.
- 5) DODA takes no responsibility for modifications altering the characteristics of the machine bought.
- 6) Before operating the machine it is necessary to carefully read all directions in the "**Instructions for Use and Maintenance**" manual. In particular, be sure that you have completely understood the machine operation.
- 7) The machine has been designed and built to treat water and sewage, not for chemical products. Handling these substances can cause permanent damage to this machine.
- 8) Check that the machine length is adequate to the depth of the tank.
- 9) In regards to machines with oil-bath drive, the driving pipe as well as the geared units (if present) must be filled with oil prior to use.
- 10) Carefully avoid that machine rubber parts do not come into contact with oil, grease or oil derivatives.

4. PRELIMINARY CHECKS

Our machines may be supplied with lubricating oil either in the driveline or in the gear-box units. Before starting the machine, check oil levels and if necessary fill then machine with oil.

- unscrew caps: fill with oil and blow air out.
- Pour oil **very slowly** see oil quantity on table;
- fill with high-temperature resistant, synthetic oil (ONLY AFI REVERSE GEAR)
- wait at least 1 hour before checking the oil level (ONLY FOR DRIVING PIPES);
- close caps.
- Check the level cap periodically: oil must never be under that level.

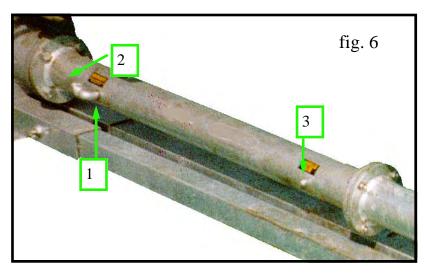
The driving pipe must be vertical during filling and inspection operations.

INDICATIVE OIL QUANTITY LEVELS FOR DRIVING PIPE

Driveline 80/90w

Pump length	1m/3'	1.5/5'	2m/6'	2.5m/8'	3m/10'	3.5m/11'	4m/13'
Oil quantity (kg)	0.5	0.5	0.5	3.2	4.7	5.6	6.6

Pump length	4.5m/15'	5m/16'	5.5m/18'	6m/19'	6.5m/21'
Oil quantity (kg)	10.2	11	12.2	13.5	16.5



- 1) Oil fill
- 2) Oil breather
- 3) Oil level

5. POSITIONING AND TRANSPORTATION

pg. 5

As far as the machines powered by electric motor are concerned, DODA is not responsible for any electric connection (please carefully follow directions on plate on motor as well as on sticker indicating the rotation direction).

For transporting the machine over long distances, load it on a proper vehicle by following directions indicated in paragraph "MACHINE LOADING AND UNLOADING". Never use a tractor for machine transportation on roads.

fig. 8

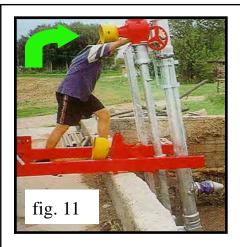
fig. 9

If the tank bottom is reached, lift the machine a few inches by means of the winch—if available.



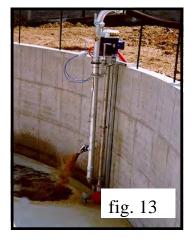
The version with electric motor and wall connection is connected fig. 13 by simply resting the wall bracket with adjustable legs on the tank wall.







Legs are adjustable according to tank side thickness. These pumps are normally stationary, but a (manual or electric) winch can be added to them on request for lifting and lowering the pump.



Model **Special 120** (powered by an electric motor) is provided with a three-wheeled carriage suitable for autonomous shifts. This model is specially indicated for narrow, ground-level tanks since the pump, once placed on the on top of the opening can be vertically lowered.

6. WORKING

WARNING: read section "GENERAL INSTRUCTIONS" before starting the machine.

After arranging the machine and checking its stability during normal functioning you can start utilising it.

As for all versions provided with an electric motor, after checking the correct rotation direction, connect to power supply.

Cone rotation is carried out by means of the hand crank fig. 17 on the output pipe.

WARNING: if the manure is very liquid, some substance may come out of the output pipe during pumping operation, even if the valve is completely closed.



7. WORK AND SAFETY RULES

- 1) During machine inspections, while working, always wear proper clothing (overalls, gloves, helmet, accident prevention shoes, fastened clothes, etc...).
- 2) The machine must always be utilized where well lit.
- 3) Since gases released by liquid manure are poisonous, check that:
 - the work area is adequately ventilated;
 - the machine is not operated in proximity to flames.
- 4) Never inspect the liquid manure tank alone. You could loose your balance or become faint due to fumes, always ask for help.
- 5) If you do not need to work in a tank, cover it.
- 6) The machine must be operated by accountable adults, while the place must not be accessible to children.
- 7) Do not carry out operations or regulations when the machine is in motion or when it is connected to power supply.
- 8) The machine must only be employed with all protections correctly positioned, following instructions indicated in the previous paragraphs to avoid possible contact with moving parts. Do not damage or remove those protections.
- 9) The machine must never be operated without having filled oil-tank (driving pipes and geared units).

- 11) During maintenance be sure that the machine is stable and disconnected from power supply.
- 12) The carriage must not be used for road-transportation.
- 13) During operation or maintenance avoid contact of machine rubber parts (gaskets, etc...) with oil, grease or oil derivatives.
- 14) Be sure that motor rotation is clockwise as indicated by the arrow on the motor (when engaged).
- 15) As for electrically operated machines, connection must be carried out in a place protected from rainfall.
- 16) If delivery is connected to pipes or hoses, check that the special fastening joints are under perfect conditions; do not stop near them: hazard of bursting and tearing.
- 17) Work and keep the machine in a dry area, protected from rainfall if it is not utilized for a long time.

8. MAINTENANCE

Before carrying out any maintenance operation stop the machine and disconnect it from supply.

- 1) Check the oil level regularly in machine parts requiring lubrication, (driving pipes and geared units) and replace oil completely every 2 years.
- 2) Grease rotary parts every 50 working hours (lubricators, piston articulated joints, gear wheels, etc...).
- 3) At the end of its utilization, wash the machine to prevent liquid manure from solidifying: this could cause damages over time.
- 4) Wear of blade and impeller must be checked periodically. Replace them if necessary.

As for all spare parts, address DODA authorized dealers directly.

pg. 10

The machine is provided with the following stickers:



PRIMA DELL'USO RIEMPIRE D'OLIO

WARNING: fill with oil up to the maximum level before using the machine 80/90W.

LIVELLO OLIO

OIL LEVEL

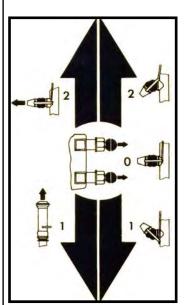
ATTENZIONE

Prima di posizionare la macchina verificare che il motore sia collegato nel senso di rotazione indicato dalla freccia.

WARNING

Before placing the pump control the turning direction of the motor it must run as pointed out by the arrow.

THIS STICKER REMINDS YOU TO CHECK THE ROTATION DIRECTION OF THE MACHINES ELECTRIC MOTOR BEFORE STARTING THE MACHINE.



OPERATIONS TO BE DONE THROUGH THE LEVERS OF DELIVERY PIPE.

10. PERFORMANCE AND TECHNICAL DATA

pg. 11

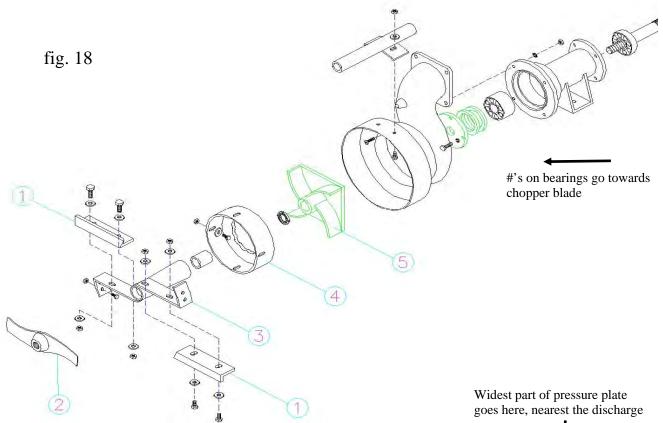
The whole structure is hot-galvanized and assure pump duration: the pump needs maintenance very rarely, thanks to its oil-bath drive. The technical features assuring a DODA high reliability are multiple:

- Pump bodies made of nodular cast iron and stainless steel or hot-galvanized metal structural work.
- Pump body shafts made of stainless steel AISI 304
- Impellers made of stainless steel, nodular cast iron, hardened steel.
- Pressed blades made of hardened manganese-vanadium alloy steel.
- Drive-column made of a hot-galvanized. High-resistance mechanic pipe.
- Drive shaft made of a drawn round bar \emptyset 30 with dovetailing in C40
- Oversized multiplier.
- Mechanical widia carbide oil seal.

HP electric motor	5	7.5	12.5	15	20	25		ı	1
HP	2-2.5	6.5-7	10-12	12-14	17-19	22-24	40-60	60-100	80-130
H (m)	5	7.5	15	18	22	24	25	30	50
Capacity	1300	2000	2800	3000	3400	3800	4000	6500	11000
Imperller revolution	1450	1450	1450	1450	1450	1450	1600	1600	1600
Pump model / hp. Outlet pipe (ømm)	08	100	120	120	120	120	120	150	200
Pump model / hp.	Super ME 80	Super ME 100	Super ME 120 Ultra ME 120	Super 120	Super 150 Ultra 150	Super 200			

11. INSTRUCTIONS FOR DISMANTLING AND RE-ASSEMBLING THE PUMP

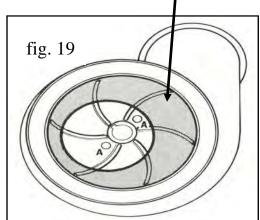
To dismantle the pump body follow the numerical progression as shown in the parts vew. Dismantle fixed blades (1) first and other components afterward. The rotating chopper blade (2) spins off counter clockwise.

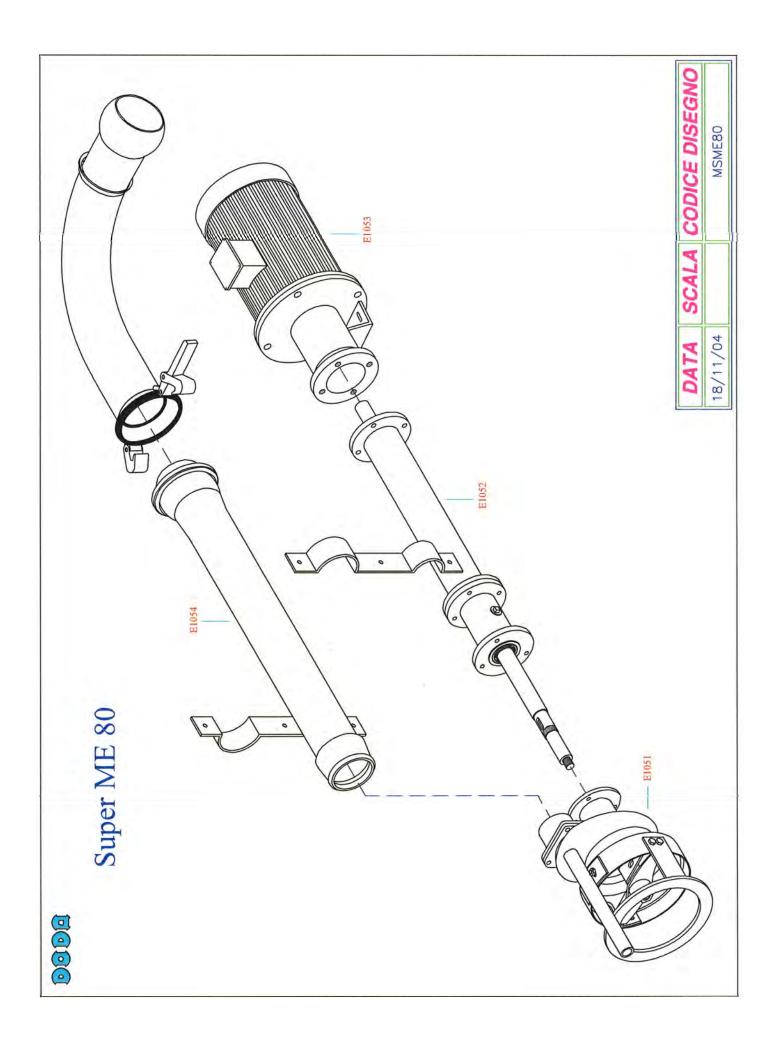


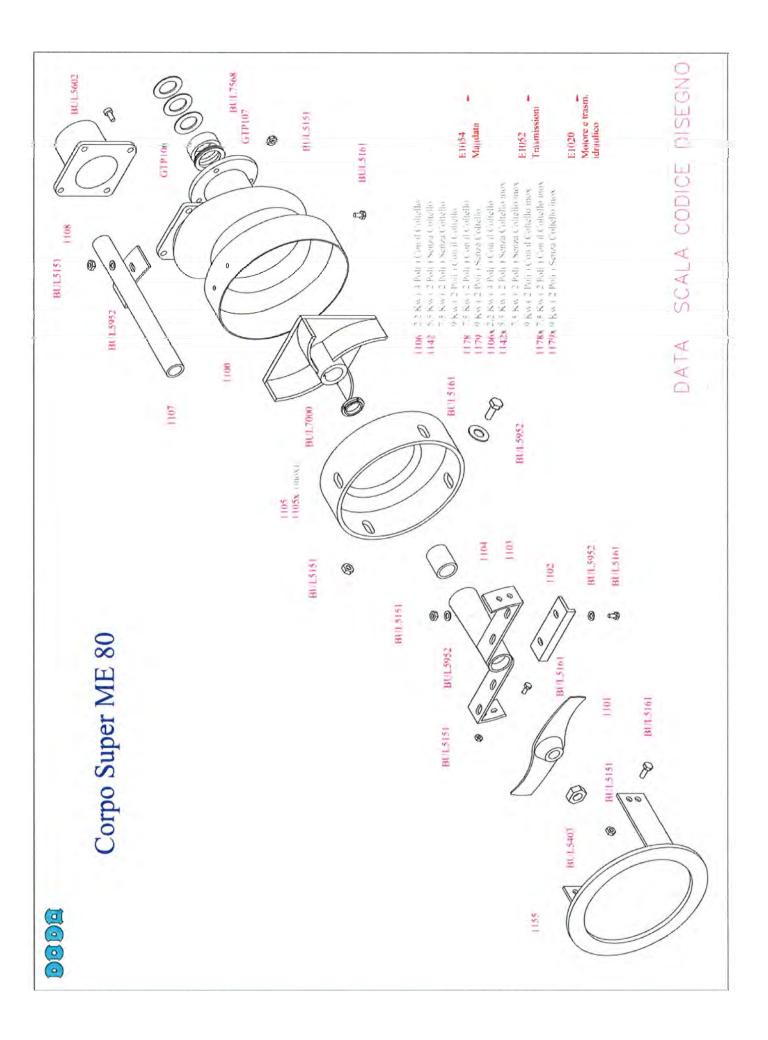
To remove the impeller, tighten two bolts in the holes "A" shown in the picture, until the complete ejection of the impeller itself.

The counter-impeller (pressure plate) must be re-assembled with the wider part closest to body outlet (as shown in fig.19)

When assembled, the reverse-impeller should skim the impeller vanes (as close as possible without touching it of the wider side and as far away as possible on the opposite side).

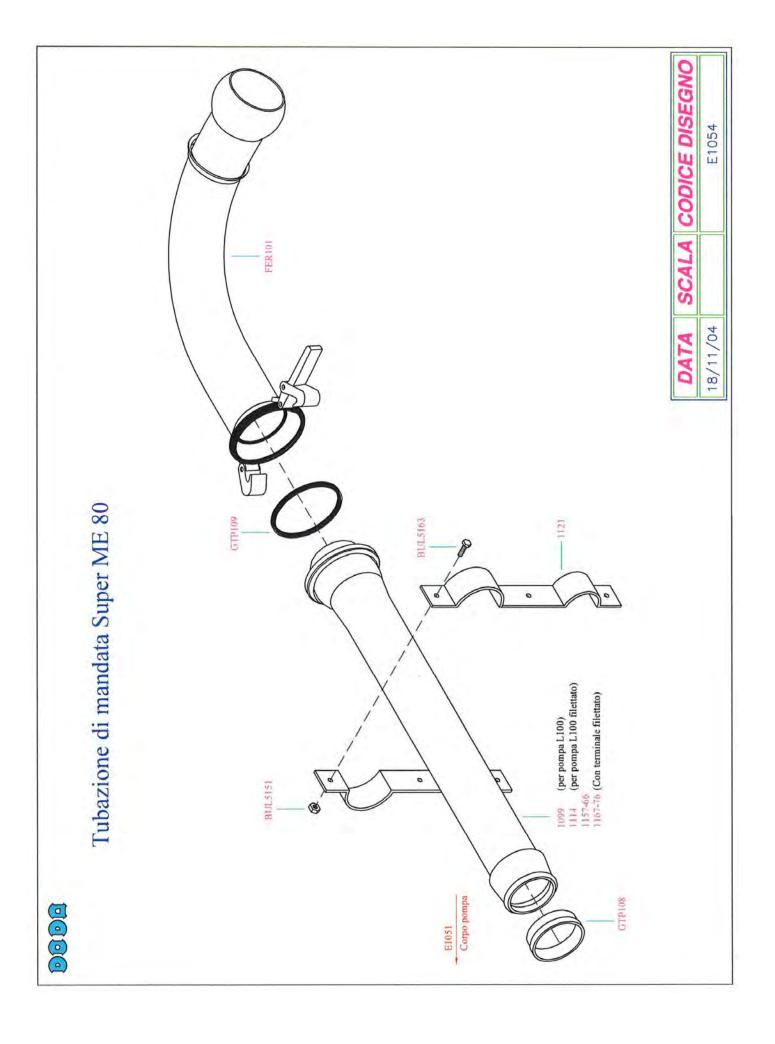


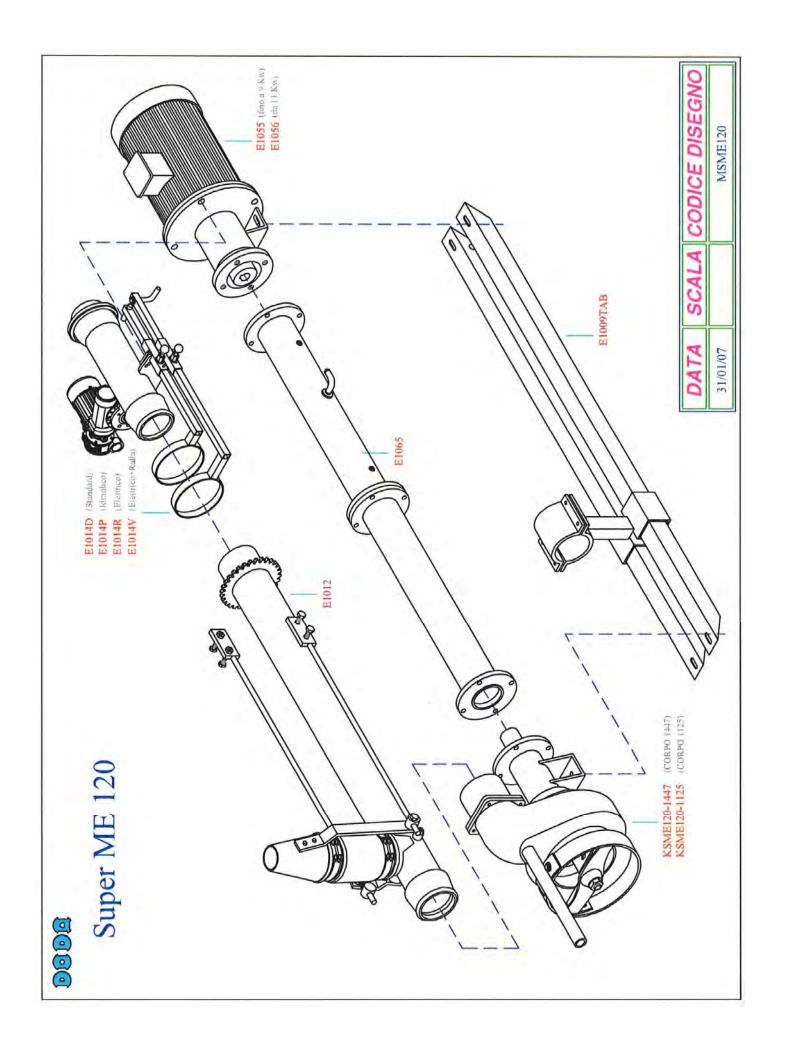




ME80 DRIVELINE
OUTER DRIVE TUBE FOR ME80 1000
OUTER DRIVE TUBE FOR ME80 1500
BEARING HOUSING ME80
SHAFT, 1.5M ME80 DRIVELINE - NEW STYLE
SHAFT, 2M ME80 DRIVELINE - NEW STYLE
SHAFT, 2.5M ME80 DRIVELINE - NEW STYLE
SHAFT, 3M ME80 DRIVELINE - NEW STYLE
SHAFT, 3.5M ME80 DRIVELINE - NEW STYLE
SHAFT, 4M ME80 DRIVELINE - NEW STYLE
NUT, M10 NY-LOCK, ZINC
BOLT, M10X30, ZINC
BOLT, M10X40, ZINC
WASHER, M10 LOCK, ZINC
KEY, 8X7X30
KEY, 8X7X35
SNAP RING, EXTERNAL 30X2
SHIM, 1MM
SHIM, 30X42 S .5
SHIM, D. 30X42 S .1
BEARING, #3206 A
BEARING, #2206-E2RS1KTN9/C3
BUSHING, H306
SEAL, OIL 25.40.7
PIPE CAP, 1/4", ZINC

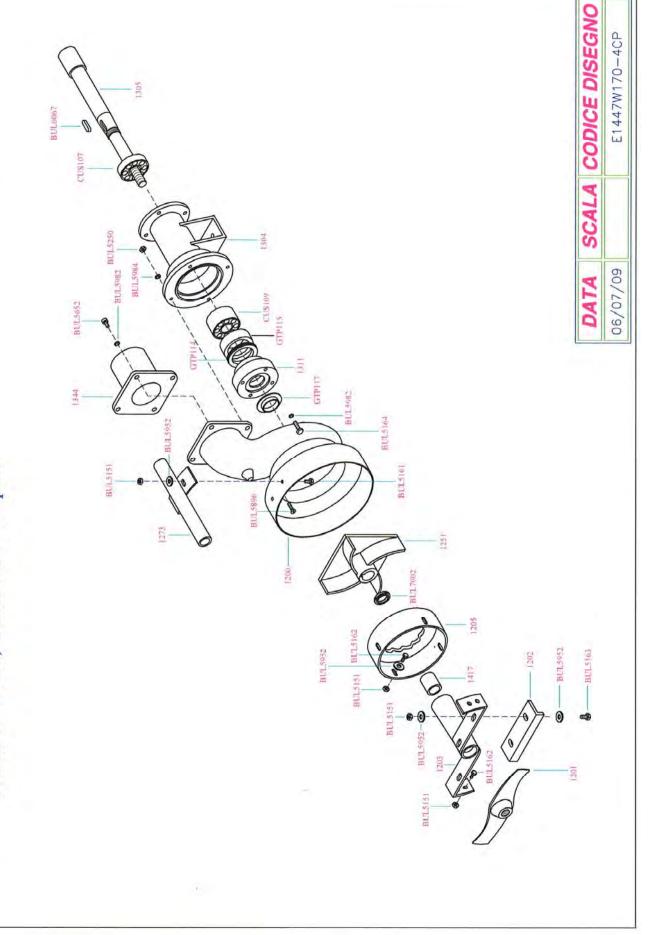
E1054	ME80 DISCHARGE TUBE
1121	CLAMP, ME80 WALL BRACKET
1157	TUBE, DISCHARGE ME80 1.5M 65"
1158	TUBE, DISCHARGE ME80 2M 84.5"
1159	TUBE, DISCHARGE ME80 2.5M 8' 104.5"
1160	TUBE, DISCHARGE ME80 3M 10' 124.5"
1161	TUBE, DISCHARGE ME80 3.5M 12' 144"
1162	TUBE, DISCHARGE ME80 4M 13' 164"
BUL5151	NUT, M10 NY-LOCK, ZINC
BUL5163	BOLT, M10X35, ZINC
FER101	ELBOW, 90 DEGREE 80MM DIA. GALVANIZED
GTP108	SEAL, DISCHARGE PIVOT TUBE FOR ME80
GTP109	O-RING, 3" 80MM RUBBER



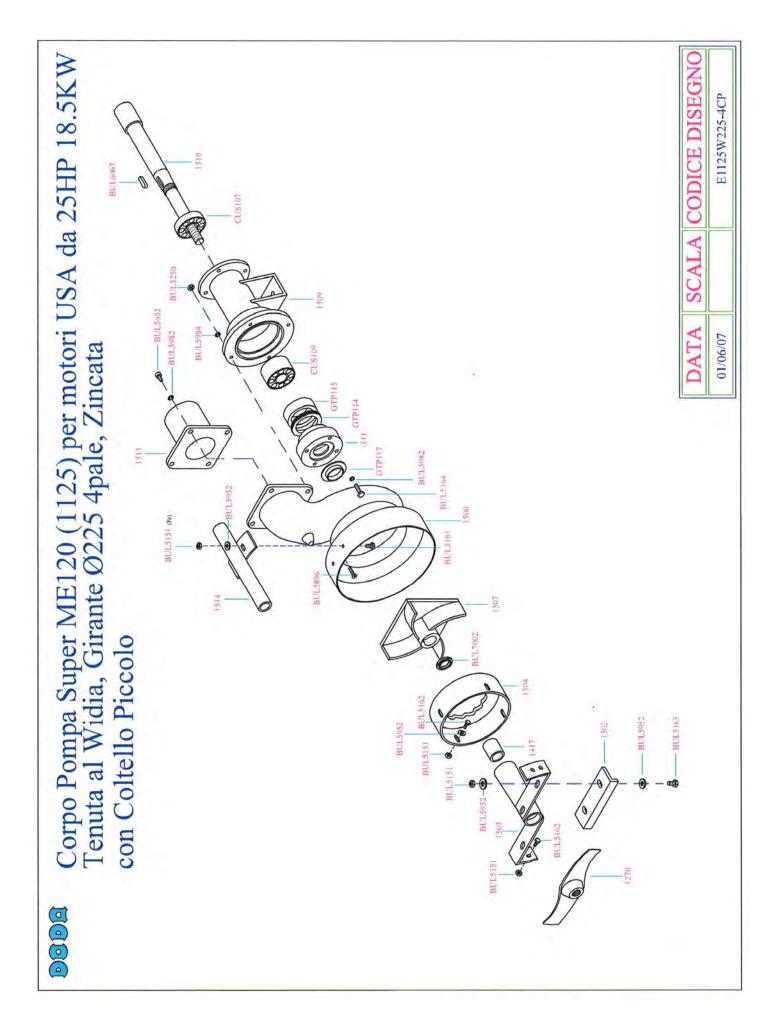




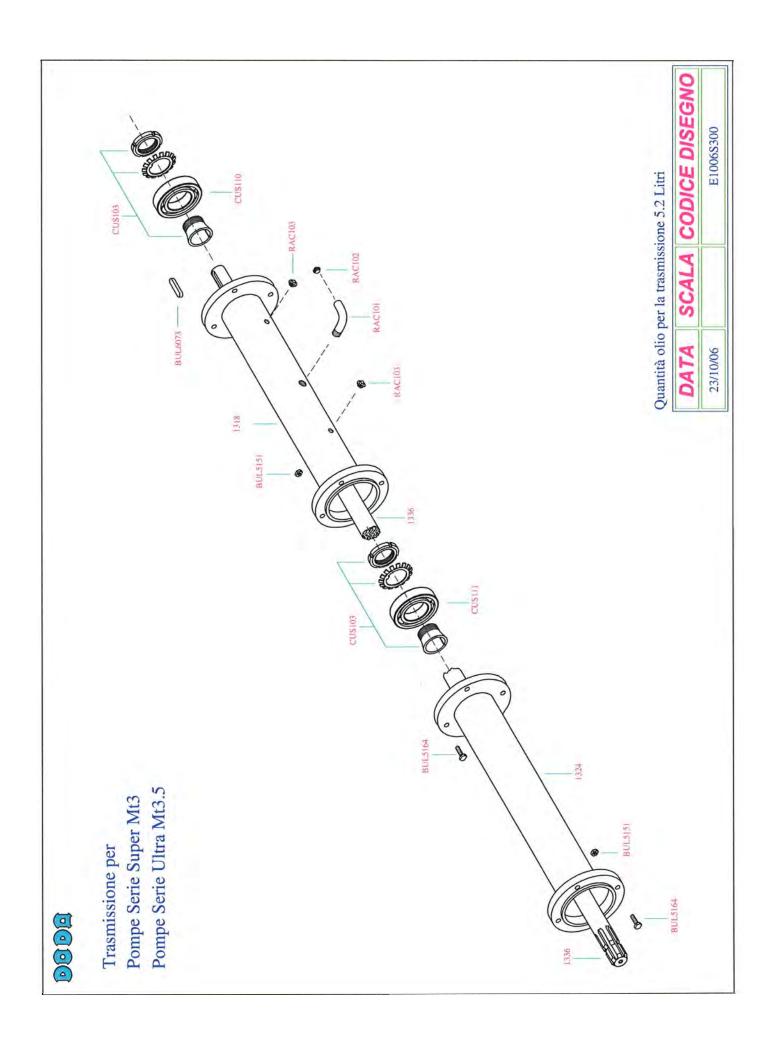
Corpo Pompa ME 120 (1447) per motore USA da 10 HP 7.5 KW USA Tenuta al Widia, Girante Ø170 4 pale



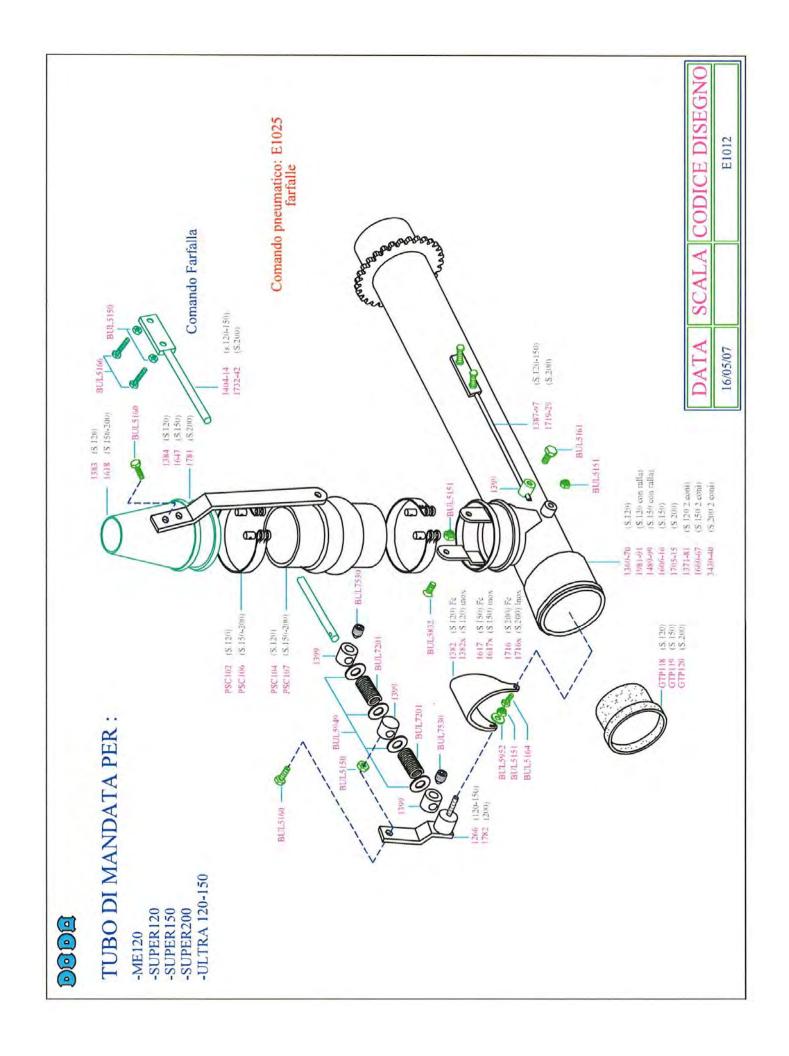
E1002	ME 7.5-15HP HOUSING- SMALL SHELL
1200	HOUSING, PUMP ME 100/120 7.5-15HP SHELL ONLY
1202	BLADE, STATIONARY 7.5-15HP ME 100/120
1203	STATIONARY SUPPORT BLADE FOR SMALL SHELL ME 1000/120 (item 1417 needs to be included)
1205	PRESSURE PLATE, 7.5-15HP ME 100/120
1206	IMPELLER, ME 100/120 12HP 185MM 7.28" DIA
1208	TUBE, FLANGED BOTTOM DISCHARGE ME100 7.5-15HP HOUSING 4"
1251	IMPELLER, ME 100/120 10HP 170MM 7" DIA
1273	STAND OFF PEG SPACER ME 100/120
1300	IMPELLER, ME 100/120 15HP 198MM 7.7"
1304	BEARING HOUSING, ME 100/120 7.5-15HP
1305	SHAFT, FOR PUMP HOUSING ME 100/120 STAINLESS STEEL 7.5-15HP (same as 2120X)
1310	OIL SEAL HOLDER FOR SUPER/ME PUMPS
1344	TUBE, FLANGED BOTTOM DISCHARGE ME120 15-20HP HOUSING 5"
1417	BUSHING, BRONZE FOR STATIONARY SUPPORT FOR SUPER & ME PUMPS (ID 1.27")
2940	BLADE, ROTATING CHOPPER FOR 7.5-15HP ME 100/120 *replacement for 1201*
BUL5151	NUT, M 10 NY-LOCK, ZINC
BUL5161	BOLT, M 10X25 ZINC
BUL5162	BOLT, M 10X30 ZINC
BUL5163	BOLT M 10X35 ZINC
BUL5250	NUT, M 14 NY-LOCK ZINC
BUL5652	BOLT, M 10X20 Socket Head Cap Screw
BUL5896	BOLT, M 14X40 Flat Head Socket Cap Screw
BUL5982	WASHER, M 10 ZINC
BUL5984	WASHER, M 14 LOCK
BUL6067	KEY, 8X7X45MM FOR AFI & VERTICAL PUMP SHAFT
BUL7002	NUT, IMPELLER LOCK M 35X1.5
CUS107	BEARING, 7208 BEP
CUS109	BEARING, 4208 ATN9
GTP114	SEAL, WIDIA STATIONARY. ME & SUPER PUMPS
GTP115	SEAL, WIDIA ROTATING. ME & SUPER PUMPS
GTP117	SEAL, RUBBER WASHER H150



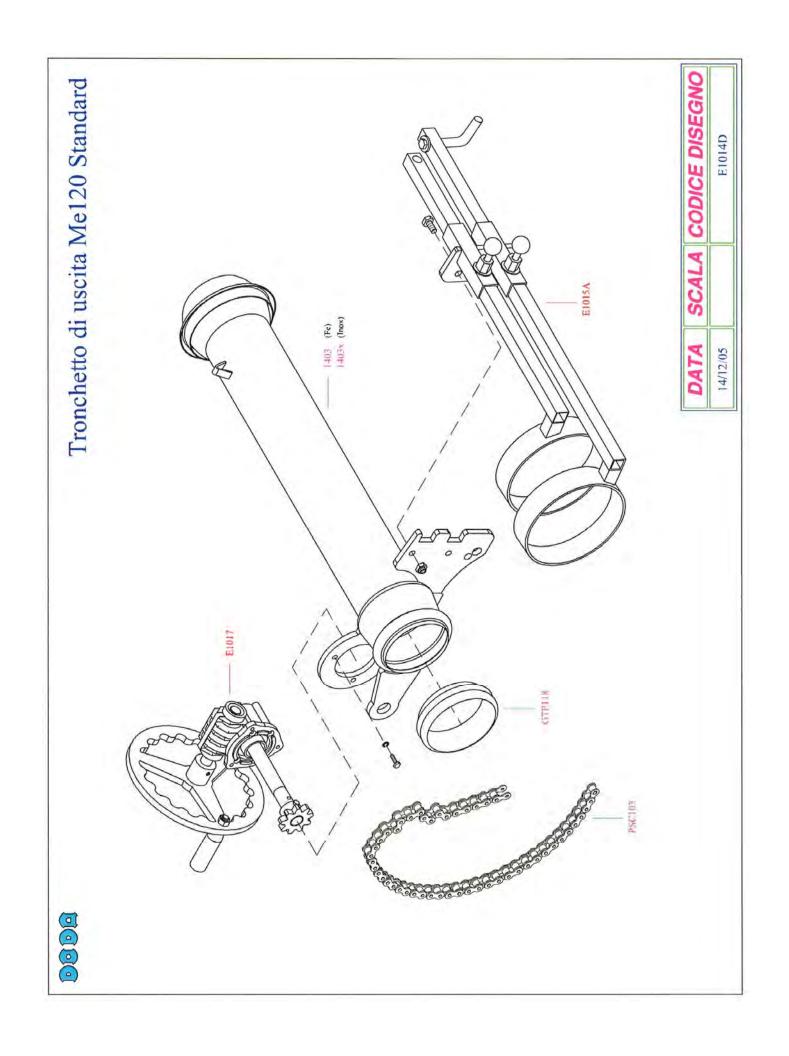
	1
E1003	ME 20-40HP HOUSING- BIG SHELL
1417	BUSHING, BRONZE FOR STATIONARY SUPPORT FOR SUPER & ME PUMPS (ID 1.27")
1500	HOUSING, PUMP ME 120 20-40HP SHELL ONLY
1501	BLADE, STATIONARY 20-40HP ME 120
1502	BLADE, STATIONARY ME 120/AFI
1503	SUPPORT, STATIONARY BLADE ME 120 (item 1417 needs to be included)
1504	PRESSURE PLATE, ME 120 20-40HP, BIG SHELL
1505	IMPELLER, ME 120 40HP (249MM)
1506	IMPELLER, ME 120 30HP (235MM)
1507	IMPELLER, ME 120 25HP (225MM)
1508	IMPELLER, ME 120 20HP (215MM)
1509	BEARING HOUSING, ME 120/200 20-40HP
1510	SHAFT, FOR PUMP HOUSING ME 120/200 (same as 2119x)
1513	TUBE, FLANGED BOTTOM DISCHARGE ME 120 20-40HP
1514	STAND OFF PEG SPACER ME 120/200
BUL5151	NUT, M 10 NY-LOCK, ZINC
BUL5161	BOLT, M 10X25 ZINC
BUL5162	BOLT, M 10X30 ZINC
BUL5163	BOLT M 10X35 ZINC
BUL5250	NUT, M 14 NY-LOCK ZINC
BUL5652	BOLT, M 10X20 Socket Head Cap Screw
BUL5896	BOLT, M 14X40 Flat Head Socket Cap Screw
BUL5982	WASHER, M 10 ZINC
BUL5984	WASHER, M 14 LOCK
BUL6067	KEY, 8X7X45MM FOR AFI & VERTICAL PUMP SHAFT
BUL7002	NUT, IMPELLER LOCK M 35X1.5
CUS107	BEARING, 7208 BEP
CUS109	BEARING, 4208 ATN9
GTP114	SEAL, WIDIA STATIONARY. ME & SUPER PUMPS
GTP115	SEAL, WIDIA ROTATING. ME & SUPER PUMPS
GTP117	SEAL, RUBBER WASHER H150



E1006	DRIVELINE
1316	DRIVE TUBE FOR 2M, 5M DRIVELINE
1317	DRIVE TUBE FOR 2.5M DRIVELINE
1318	DRIVE TUBE FOR 3.5M, 4M DRIVELINE
1319	DRIVE TUBE FOR 3.5M DRIVELINE
1320	DRIVE TUBE FOR 4M DRIVELINE
1323	DRIVE TUBE FOR 2.5M DRIVELINE
1324	DRIVE TUBE FOR 3M DRIVELINE
1325	DRIVE TUBE FOR 3.5M DRIVELINE
1326	DRIVE TUBE FOR 4M DRIVELINE
1334	SHAFT, DRIVELINE FOR 2M 6' (58.25")
1335	SHAFT, DRIVELINE FOR 2.5M 8' (74")
1336	SHAFT, DRIVELINE FOR 3M 10' (93.75")
1337	SHAFT, DRIVELINE FOR 3.5M 12' (113.25")
1338	SHAFT, DRIVELINE FOR 4M 13' (133")
BUL5151	NUT, M10 NY LOCK, ZINC
BUL5164	BOLT, M10X40 ZINC
BUL6073	KEY, C45K 10X8X50
CUS103	BEARING, H307 SPLIT SLEEVE
CUS110	BEARING, SKF2207 E-2RS15TN9/C3
CUS111	BEARING, 1307 EKTN9/C3
RAC101	ELBOW, 90 DEG GALVANIZED M1/2" X F1/2"
RAC102	PIPE CAP, GALVANIZED 1/2"
RAC103	PIPE CAP, GALVANIZED 1/4"



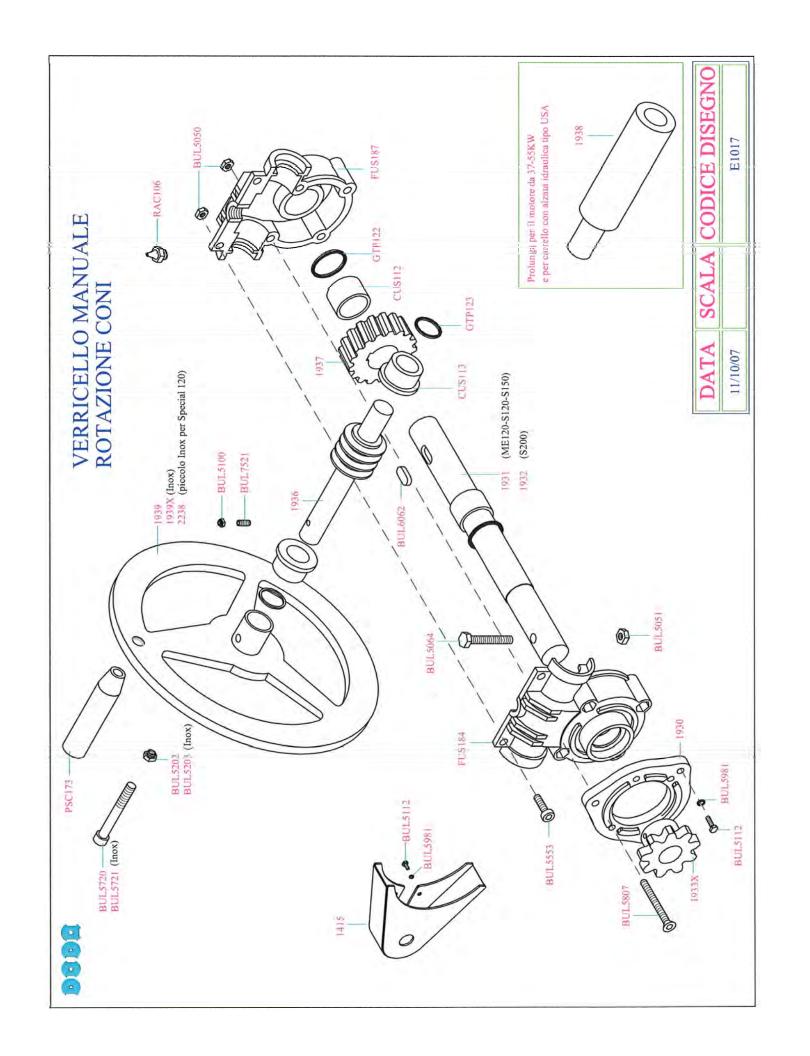
E1012	LOWER DISCHARGE TUBE ME 120
1266	LINKAGE, ADJUSTABLE FOR ME 100/120 DIVERTER GATE
1361	TUBE, LOWER DISCHARGE ME 120 2M 6' NUDE
1362	TUBE, LOWER DISCHARGE ME 120 2.5M 8' NUDE
1363	TUBE, LOWER DISCHARGE ME 120 3M, 10' NUDE
1364	TUBE, LOWER DISCHARGE ME 120 3.5M 11' NUDE
1365	TUBE, LOWER DISCHARGE ME 120 4M 13' NUDE
1382	DIVERTER, ME 120 (to change agitation/discharge flow)
1383	NOZZLE, DISCHARGE ME120
1384	LEVER, TO ADJUST NOZZLE ME120
1410	ROD, LINKAGE ASSEMBLY FOR VERTICAL PUMPS
1265X	BUSHING, SECURES ROD ON MIXING NOZZLE (same as 1399X)
1399X	BUSHING, SECURES ROD ON MIXING NOZZLE (use #1265X)
BUL5150	NUT, M10 ZINC
BUL5151	NUT, M10 LOCK NUT
BUL5160	BOLT, M 10X20 ZINC
BUL5161	BOLT, M10X25 ZINC
BUL5164	BOLT, M 10X40 ZINC
BUL5166	BOLT, M 10X50 ZINC
BUL5832	BOLT, M10X20 FLAT HEAD SOCKET CAP SCREW, ZINC
BUL5952	WASHER, M 10X21 FLAT WASHER
BUL7201	SPRING, FOR ACTIVATING ROD ON VERTICAL PUMP
BUL7530	NUT, M 10 SET SCREW S.S.
E10121215	TUBE, LOWER DISCHARGE ME 120 1.5M 4' COMPLETE
E10121220	TUBE, LOWER DISCHARGE ME 120 2M 6' COMPLETE
E10121225	TUBE, LOWER DISCHARGE ME 120 2.5M 8' COMPLETE
E10121230	TUBE, LOWER DISCHARGE ME 120 3M 10' COMPLETE
E10121235	TUBE, LOWER DISCHARGE ME 120 3.5M 11' COMPLETE
E10121240	TUBE, LOWER DISCHARGE ME 120 4M 13' COMPLETE
E10121245	TUBE, LOWER DISCHARGE ME 120 4.5M 15' COMPLETE
PSC102	CLAMP, FOR LAYFLAT HOSE 120MM 5" STAINLESS STEEL
PSC104	HOSE, FLAT FOR ME 120 PUMPS D.125, BLUE

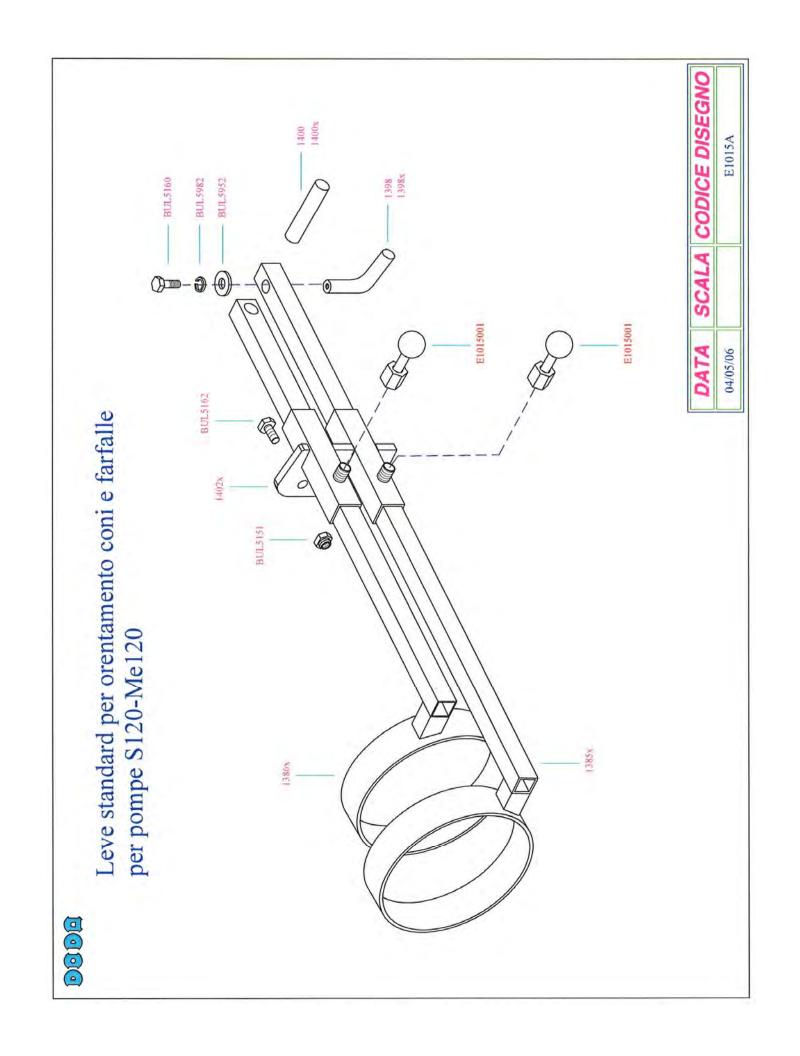


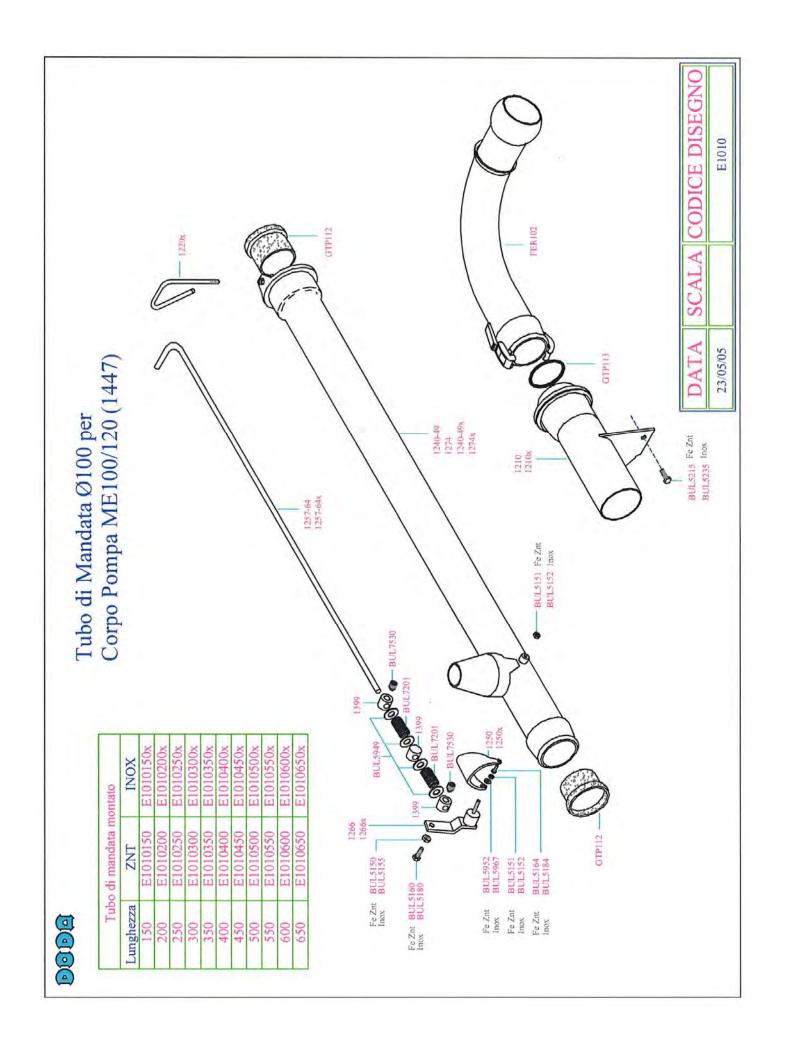
E1014G	UPPER DISCHARGE S200, complete tube
1730	TUBE, UPPER DISCHARGE FOR 200, NUDE
1783X	STABILIZER PLATE FOR S200 UPPER DISCHARGE TUBE
BUL5101	NUT, M8 NY-LOCK, STAINLESS
BUL5133	BOLT, M8X30, STAINLESS
GTP120	SEAL, RUBBER DISCHARGE PIVOT FOR S200 TUBE
PSC217	CHAIN, STAINLESS STEEL FOR S200, 760mm LONG

E1016001	AGITATION NOZZLE ADJUSTMENT ASSEMBLY, 120/150/200, INCLUDES WINCH & HAND WHEEL
1766X	LINKAGE RING, TO ADJUST AGITATION NOZZLE S200
E1044001	ADJUSTER FOR MIXING NOZZLE
E1045001	HANDWHEEL ASSEMBLY

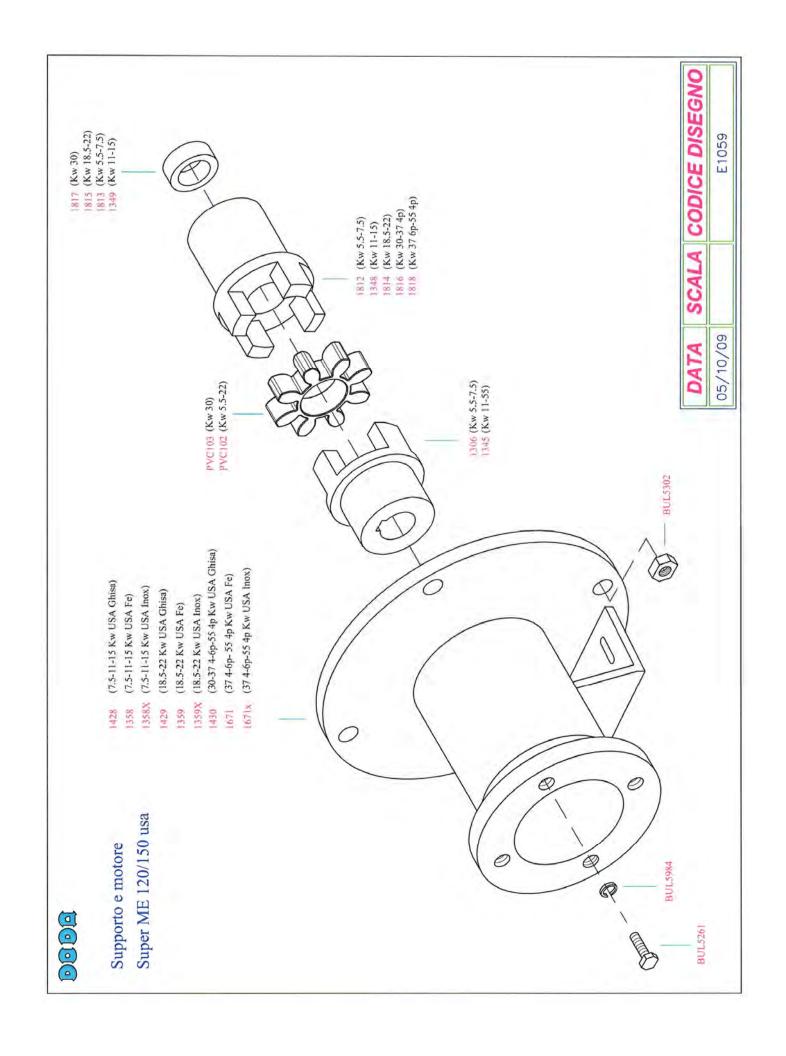
E1017001	CRANK, 120/150/200 FOR CONE ROTATION
1931	SHAFT, KEYED FOR DIRECTIONAL NOZZLE, S150
1932	SHAFT, KEYED FOR DIRECTIONAL NOZZLE, S200
1933	GALVANIZED PINION GEAR 3/4" Z=9
1935	WHEEL, HAND CRANK, FOR AGITATION GEARBOX ON VERTICAL PUMP
1936	SHAFT, W/WORM-GEARBOX DIRECTIONAL NOZZLE
1937	GEAR, WORM GEAR FOR DIRECTIONAL NOZZLE, BRONZE, KEYED Z=17
BUL5050	NUT, M6 NY-LOCK, ZINC
BUL5051	NUT, M6 NY-LOCK, STAINLESS
BUL5064	BOLT, M6X45, ZINC
BUL5100	NUT, M8 NY-LOCK, ZINC
BUL5112	BOLT, M8X20, ZINC
BUL5202	NUT, M12 NY-LOCK, ZINC
BUL5553	BOLT, M6X20, ZINC SHCS
BUL5720	BOLT, M12X110, ZINC SHCS
BUL5807	BOLT, M6X70, ZINC, FHSCS (WORM GEARBOX)
BUL5981	WASHER, M8 LOCK, ZINC
BUL6062	KEY, 8X7X20
BUL7521	SCREW, SET M8X16 UNI5927 ZINC
CUS112	BUSHING, BRONZE WORM GEAR/DIRECTIONAL GEARBOX 30X25 20mm LONG
CUS113	BUSHING, BRONZE FLANGED ID 19.5 L 20 OD 28, LIP OD 35
FUS184	GEAR SHELL ALUMINUM, RIGHT HANDED
FUS187	GEAR SHELL ALUMINUM, LEFT HANDED
GTP122	O-RING, RUBBER D 25, 7.62
GTP123	O-RING, RUBBER D 20, 29 S 2.62
PSC173	HANDLE FOR HAND CRANK WHEEL, BLACK PLASTIC
RAC106	ZERK, GREASE METRIC 1/4"



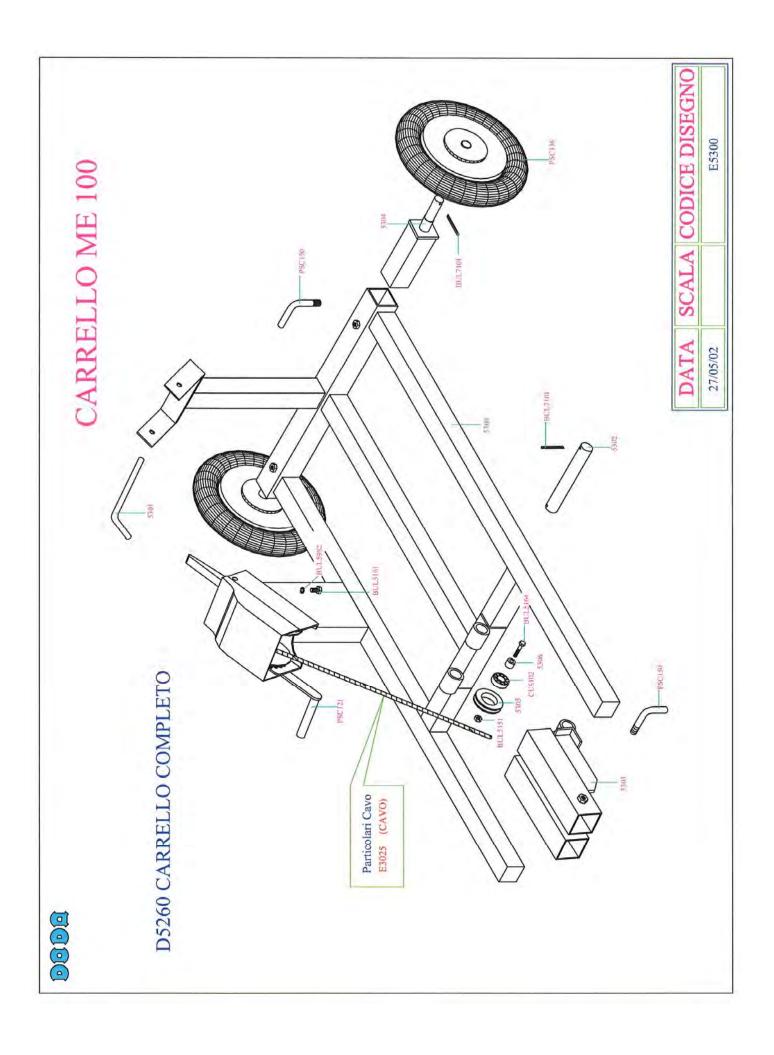




E1010	ME100 DISCHARGE TUBE
BUL5150	NUT, M10, ZINC
1210	TUBE, UPPER DISCHARGE, ME100 4" COMPLETE
1240	TUBE, ME100 1.5M LOWER DISCHARGE NUDE TUBE, GALVANIZED
1241	TUBE, ME100 2M 6' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1242	TUBE, ME100 2.5M 8' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1243	TUBE, ME100 3M 10' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1244	TUBE, ME100 3.5M 12' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1245	TUBE, ME100 4M 13' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1246	TUBE ME100 4.5M 15' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1247	TUBE, ME100 5M 16' LOWER DISCHARGE NUDE TUBE, GALVANIZED
1250	DIVERTER, ME 100 TO CHANGE AGITATION/FLOW
1266	LINKAGE, ADJUSTABLE FOR ME100 DIVERTER GATE
1399	BUSHING FOR CONTROL ARM ME100/ME120
BUL5151	NUT, M10 NY-LOCK, ZINC
BUL5160	BOLT, M10X20, ZINC
BUL5164	BOLT, M10X40, ZINC
BUL5215	BOLT, M12X50, ZINC
BUL5949	WASHER, M14, ZINC
BUL5952	WASHER, M10 FLAT, ZINC
BUL7201	SPRING FOR ACTIVATING RODS ON VERTICAL PUMP
BUL7530	SET SCREW, M10, STAINLESS
FER102	ELBOW, 90 DEGREE 4" 100MM GALVANIZED
GTP112	SEAL, DISCHARGE PIVOT TUBE FOR ME100 4"
GTP113	O-RING, RUBBER 4" 100MM



E1059	Motor Mount & Couplers
1306	COUPLER, 10HP PUMP SIDE ID.30 L.80
1345	COUPLER, 15-40HP PUMP SIDE ID.30 L.50
1348	COUPLER, 15- 20HP ELECTRIC MOTOR SIDE ID.41 L.108.5
1349	SPACER, IRON 15-30HP MOTOR ID.42 L.29
1426	C-FACE MOTOR MOUNT 50HP
1428	C-FACE MOTOR MOUNT, 10, 15, 20HP
1429	C-FACE MOTOR MOUNT 25, 30HP
1430	C-FACE MOTOR MOUNT 40HP
1812	COUPLER, 10HP ELECTRIC MOTOR SIDE ID.35 L.80
1813	SPACER, IRON 10HP MOTOR ID.35 L.29
1814	COUPLER, 25-30HP ELECTRIC MOTOR SIDE ID.47.5 L.110
1815	SPACER, IRON 25-30HP MOTOR ID.48 L.29
1816	COUPLER, 40HP ELECTRIC MOTOR SIDE ID.54 L.109
1817	SPACER, IRON 40HP FOR MOTOR ID.54 L.29
BUL5261	BOLT, M14X30 ZINC
BUL5984	WASHER, M14 LOCK WASHER, ZINC
PVC101	PLASTIC STAR, 10HP AR38/45
PVC102	PLASTIC STAR, 15-40HP 42/55AL
PVC103	PLASTIC STAR, 50+HP 55/70



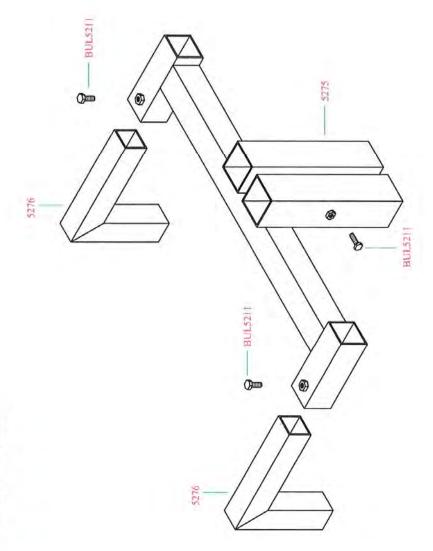
E5300	ME PUMP CARRIAGE
5300	FRAME FOR ME CARRIAGE, GALVANIZED
5301	PIN TO HOLD RAILS FROM ROTATING ON E5300CMPT CARRIAGE
5302	PIN FOR E5300CMPT CARRIAGE, TO HOLD BRONZE PULLEY
5303	BRACKET TO HOLD RAILS IN PLACE ON E5300CMPT CARRIAGE
5304	SUPPORT FOR TIRES ON E5300CMPT CARRIAGE, ADJUSTABLE
5305	PULLEY, BRONZE 70/42 14mm HIGH
5306	INNER SPACER/BUSHING FOR CUS102 OD 20 ID 10.5 L 15 FOR WINCH
BUL5151	NUT, M10 NY-LOCK, ZINC
BUL5161	BOLT, M10X25, ZINC
BUL5164	BOLT, M10X40, ZINC
BUL5982	WASHER, M10 LOCK, ZINC
BUL7101	COTTER PIN
CUS102	BEARING, 6004-2Z QE6
PSC121	WINCH WITH BRAKE, FACA 1980LBS, 900KG. CARRIAGE, WALL BRACKET
PSC136	WHEEL, RUBBER FOR SUPER CARRIAGE
PSC150	PIN TO HOLD RAILS IN PLACE

E5280	WALL MOUNT BRACKET, STANDARD	
5275	WALL MOUNT BRACKET, STANDARD, GALVANIZED	
5276	LEG FOR WALL MOUNT BRACKET, GALVANIZED	
BUL5211	BOLT, M12X30, ZINC	

E5290	WALL MOUNT BRACKET WITH MANUAL WINCH
2714	SPACER, IRON BUSHING
5276	LEG, GALVANIZED FOR WALL MOUNT BRACKET
5277	MAIN WALL MOUNT BRACKET PIECE
5305	PULLEY, BRONZE 70/42 14mm HIGH
5218	CLAMP, STAINLESS STEEL FOR CABLE
BUL5151	NUT, M10 NY-LOCK, ZINC
BUL5166	BOLT, M10X50, ZINC
BUL5179	BOLT, M10X16 STAINLESS
BUL5211	BOLT, M12X30, ZINC
CUS102	BEARING, 6004-2Z QE6

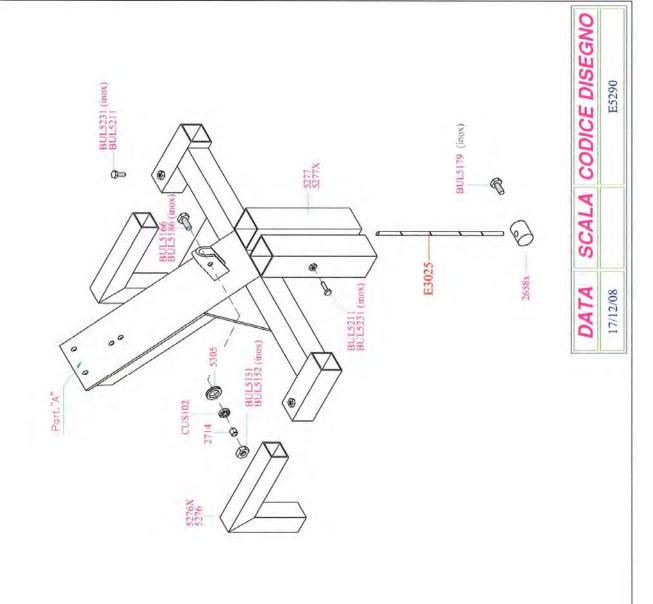


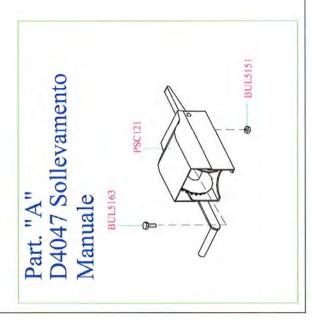
ATTACCO A MURO POMPE VERTICALI



CODICE DISEGN	E5280
SCALA	
DATA	02/02/07

ATTACCO A MURO CON VERRICELLO





CODICE DISEGNO -BUL5211 -BUL5202 E1009SC400 2125 Distanziale per attacco a muro a muro Super e Ultra 120 N°2 pezzi dalla 4,5m in su 01/04/09 0 0 -0 0 Carrucola per Carrello 1226D Guide per Pompe Serie Super zincate 0 BUL5211— 0 BUL5202 PSC1040X BUL5953 BUL5953 0000

E4.000CN	DAUG FOR MEDTICAL RUMAR
E1009SN	RAILS FOR VERTICAL PUMP
1280	PIVOT 30MM PIN TO GO BETWEEN RAILS ON 150/200 PUMP
2024	CLAMP TO HOLD DRIVELINE SECURE ON LONG PUMPS
2125	SPACER FOR LONG RAILS, GALVANIZED
5209	PULLEY, BRONZE FOR SUPER CARRIAGE
BUL5152	NUT, M10 NY-LOCK, STAINLESS
BUL5210	BOLT, M12X25, ZINC
BUL5211	BOLT, M 12X30, ZINC
BUL5953	WASHER, M12 FLAT, ZINC
E1009SN100	RAILS FOR 1M 3' PUMP, GALVANIZED. PAIR
E1009SN150	RAILS FOR 1.5M 5' PUMP, GALVANIZED. PAIR
E1009SN200	RAILS FOR 2M 6' PUMP, GALVANIZED. PAIR
E1009SN250	RAILS FOR 2.5M 8' PUMP, GALVANIZED. PAIR
E1009SN300	RAILS FOR 3M 10' PUMP, GALVANIZED. PAIR
E1009SN350	RAILS FOR 3.5M 12' PUMP, GALVANIZED. PAIR
E1009SN400	RAILS FOR 4M 13' PUMP, GALVANIZED. PAIR
E1009SN450	RAILS FOR 4.5M 15' PUMP, GALVANIZED. PAIR
E1009SN500	RAILS FOR 5M 16' PUMP, GALVANIZED. PAIR
E1009SN550	RAILS FOR 5.5M 18' PUMP, GALVANIZED. PAIR
E1009SN600	RAILS FOR 6M 20' PUMP, GALVANIZED. PAIR
E1009SN650	RAILS FOR 6.5M 21' PUMP, GALVANIZED. PAIR
PSC1040X	WASHER, FOR RAILS, STAINLESS STEEL 50/13

NOTES		

NOTES	

Dealer Name:	
Dealer #:	
Purchase Date:	
Pump Model:	



DODA USA INC 255 16TH STREET SOUTH ST. JAMES, MN 56081