DREDGING AND DISPOSAL PLAN
PORT OF BANDON

BANDON, OREGON

Attn: Ms. Gina Dearth, Port Manager
PO Box 206
Bandon, OR 97411

By Jack Akin, EMC, Engineers/Scientists, LLC

9/24/15

TABLE OF CONTENTS

1.0 Introduction ......................................................................................................... 1
2.0 Dredge and Disposal Plan ................................................................................... 1
   2.1 Dredging .......................................................................................................... 1
   2.2 Operations Summary ..................................................................................... 2
   2.3 Dredging Equipment List for Plan ............................................................... 2
3.0 Sediment Disposal ............................................................................................... 3
4.0 Horizontal and Vertical Control of Dredging Equipment ..................................... 4
5.0 Dredge Area (& Table A) ................................................................................... 5
   Inserted Drawings of Plan and Elevation Views ............................................. 5
6.0 Working Hours .................................................................................................... 7
7.0 Positioning & Progress Surveys .......................................................................... 7
8.0 Dredge Navigation ............................................................................................... 8
9.0 Vessel Traffic and Security ............................................................................... 8
10.0 Protection of Port Facilities .............................................................................. 8

Attached: Figures A – M (Details)
1.0 Introduction

EMC, Engineers/Scientists, LLC (PE) has been contracted by the Port of Bandon (Port) to propose for permit, and to provide engineering, labor, materials and equipment to conduct dredging and disposal of about 7000 yds$^3$ of sediment from the Launch Ramp Area and about 34,500 cubic yards from the Boat Basin. This work will be conducted under the submitted Joint Permit and is purposed to remove a backlog of accumulated sediments that have shoaled into these boat service areas for the last several decades, threatening to damage boat traffic and mooring.

This project is expected to introduce a recurring program designed to maintain ramp and basin floor depths at the Port of Bandon. In addition to the plan view of the proposed dredging areas shown in this report, cross-sectional views (prisms) have been constructed at key locations, which have been provided to the USACE, and are inserted into this report. If there are any questions or need for additional information, please contact the engineer (Jack Akin, Engineer of Record, cell: 541-261-9929, emc@emcengineersscientists.com).

Design dredging depths are shown in the attached dredge volume drawings, and in no case exceed 15 feet MLLW in the Basin and 11.75 feet MLLW in the Ramp Area.

2.0 Dredge and Disposal Plan

2.1 Dredging

The Port of Bandon requests that it may dredge a total of about 42,000 yds$^3$ (in-situ) of harbor & ramp basin sediments that have shoaled into these boat service areas for the last several decades. The Plan proposes that the dredging be accomplished by hydraulic suction dredge with cutter head. The Port plans to employ an Ellicott dredge for this project, as described within the Section below entitled Equipment List for Plan. The dredge would be deployed in the order as listed in the Dredge Area Table A below, unless Port management finds, during operations, that market and operational considerations dictate revisions in the order.

All runs of dredge pipe when dredging would be entirely contained within the basins and, where floating or surfaced, would be marked with flashing yellow lights during any night operations. After operations are completed in each area the dredge will be moved to the next area in sequence. The sediments would be pumped from the dredge and piped to flowlane as described below.
2.2 Operations Summary

a. Existing survey data shown has been supplied by Oregon State Marine Board – Basin Survey, combined with EMC and USACE post dredging elevations.

b. Interpolated elevation data was used at several locations on this drawing in order to extend beyond the proposed dredging boundary.

c. All areas of the Boat Basin are to be dredged to 15 feet MLLW (includes 2 foot overdredge), or to other depths as dictated by conditions, whichever is shallower.

d. All areas of the Launch Ramp are to be dredged to 13.5 feet MLLW (includes 2 foot overdredge), or to other depths as dictated by conditions, whichever is shallower.

e. Disposal pipe is specified to be 10-12 inch, SDR 11,17 or 21 HDPE, and subsequent engine horsepower and pump (centrifugal, slurry) characteristics are based on production rate capacity of the available dredge.

f. The system is designed assuming a 440 hp hydraulic suction dredge, supplied with a rotating cutterhead/ladder system capable of pumping about 3000 GPM of 15 - 30% slurry, providing an approximated 160 to 250 yd.³ per hour production rate. Utilizing these production rate assumptions, this project is expected to be completed in about 50 days, including mobilization/demobilization.

g. Pipe sections within the marina will be sunken by sediment only, and therefore will have potential to float when filled only with seawater. This can occur during purging, and safety precautions to avoid collisions with boaters must be taken during purging (pipe cleanout).

h. Anchoring of the pipe will be completed as specified by the project engineer/manager to prevent uncontrolled horizontal drifting of pipe sections in the river.

i. All anchors within navigable waters will be marked by buoys and lighted as specified by the project engineer/manager.

j. The end of the pipe will be anchored to a dispersion float and its end will be weighted against flow propulsion to maintain a depth of 5 feet or greater.

2.3 Dredging Equipment List for Plan

**Dredge** – Ellicott SL (Swinging Ladder) 360, 68,000 lb. (w/o fuel), 16.3’ wide X 58.8’ long (assembled), custom-constructed hydraulic suction dredge with cutter head. The pump is expected to perform at about 75% efficiency, providing at least 150 feet of head and 3000 gallons per minute flow, up to an equivalent horsepower of 440, from which an estimated 40 – 50 hp is taken to drive the cutter head, spuds and swing anchor winches. The dredge is custom designed for single truck/trailer mobilization.
Tender Vessel – One-truck transported push boat dredge tender with a-frame, block and rigging, operating a winch.

Skiff – Small boat with outboard motor to assist with swing anchor, supplies, pipeline and other operations during project.

Fusion Welder - 10” – 12” self-aligning plastic (HDPE) pipe fusion welder.

Overhead Fork – Fork-over-cab material handling truck, with 3-section boom and carriage with forks for upland mobe/demobe loading and off-loading, and operations during the project.

Lowboy Trailer – Trailer with ramp for dredge mobe/demobe.

Crane – Adequately specified crane capable (capacity dependant upon required off/on-loading, reach and method considerations).

Pipe Dispersion Carriage – In-house constructed.

Pipe – 2500 to 3000 feet of 10” or 12” HDPE pipe, pressure rated according to specified standard dimensional ratio (e.g. SDR 11, 17, 21), welded to specified lengths, with flanges placed as determined on-site, as determined by the consulting engineer (EMC).

Other – Various in-house and purchased anchoring, rigging, lighting, buoys, floats and signage, as determined during project equipment mobilization.

3.0 Sediment Disposal

The sediment, after removal by a hydraulic dredge system, would be piped at an estimated 9.7 – 14 feet per second, only during ebb tide, to location(s) in the Coquille River (flowlane disposal), as shown in the inserted drawings below (Page 5).

Alternative dredging operations (e.g. clamshell/scow, submersible pump/pipeline) were considered for this project. But navigation and draft constraints (no reasonably accessible landings for crane/excavator, depth limitations for required barge drafts, maneuverability of clamshell operations between docks, etc.) quickly eliminated these as feasible alternatives.

However, a dredging operation utilizing equipment and materials as enlisted in Section 2.3 is very feasible.

Sediment piping distances are well within the capabilities of the specified dredging equipment described above.
A pipeline (probably 10” diameter, plastic, welded) could be constructed, laid out along a nearby beachhead or basin embankment, towed to location, and anchored at crucial points to the Coquille river floor. The pipe outlet (end) would be mounted to an anchored, in-house constructed dispersion float and weighted against propulsion force to five foot or greater depth, or anchored to the River floor adequately away from the pipe end to allow free pipe movement during pumping.

Advantages to the direct pipeline are efficiency, traffic reduction, fuel savings, turbidity reduction.

Regarding boat traffic: the Port is a busy Port, with daily commercial and sport vessels passing in and out of the inlet/outlets. An anchored, well-located, underwater pipeline would not impede this traffic.

The disadvantages include 1) operational difficulties during storm surges 2) piping pathway concerns.

Regarding operational difficulties during storm surges/waves: the Port has been advised by knowledgeable service providers that this option is rendered very difficult to impossible during storm surges/waves.

Regarding piping pathway concerns: Finding a pipe pathway that avoids incoming and outgoing draft concerns may require some overland (from harbor to sea) piping.

4.0 Horizontal and Vertical Control of Dredging Equipment

Horizontal positioning will be accomplished by using GPS positioning with differential GPS and Windows-driven HYPACK software, and assisted by line of sight positioning from the numerous visual reference points in the harbor. This is feasible because all planned dredging will occur within the harbor where reference landmarks (i.e. boat slips, floating and permanent docks) are readily available. Vertical positioning is also accomplished by HYPACK, assisted via a ladder gauge on the dredge. This gauge is to be regularly checked and adjusted with the tide gauge at the Port.

5.0 Dredge Area

Description Table – The following table presents the specific sub-areas within the basins and dock more generally named “Launch Ramp Area” and the “Boat Basin”.

<table>
<thead>
<tr>
<th>Area</th>
<th>Area (ft.$^2$/Depth (ft. MLLW), Including 2’ Overdredge</th>
<th>Maximum Volume Removed (yds.$^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch Ramp Area</td>
<td>36,460/-11.75</td>
<td>7050</td>
</tr>
<tr>
<td>Boat Basin</td>
<td>140,363/-15</td>
<td>34,461</td>
</tr>
</tbody>
</table>
Launch Ramp & Boat Basin

Launch Ramp
Boat Basin

Prisms

PRELIMINARY
NOT FOR CONSTRUCTION
6.0 Working Hours

Working hours for the duration of the project are anticipated to be one or more hours before and after ebb-tides each day (Monday through Sunday). Pumping into flowlane will only be done during ebb tide.

7.0 Positioning & Progress Surveys

The Port will utilize a survey rod and/or sonar depth finder system to measure and confirm that basin floor design depths have been obtained, but not exceeded.
Used in conjunction with the US Coast Guard posted vertical reference marker, frequent measurements and recordings will be used to assist. The marker is a tide gauge, or a “tide board” with markings in tenths of feet, posted near in the Port basin.

Depth readings will be recorded on existing contoured maps of the basin floors. The maps will be updated as a result of depth measurements taken after the dredging is completed.

8.0 Dredge Navigation

Navigation of the dredge is not anticipated to be difficult as it is conducted within the confines of the Port basins. Horizontal and vertical location of the equipment is observed throughout the project through use of the system described in Section 4.0 to monitor the basin floor elevation.

9.0 Vessel Traffic and Security

The Port is a working facility and anticipates being able to coordinate with Port management on how to both avoid interference with vessel traffic and complete the project within the permitted time constraints. The Port will notify the Coast Guard of activities as required to comply with Coast Guard and Port regulations guiding operations in and near the Coquille River.

10.0 Protection of Port Facilities

The Port will conduct a photographic survey of the Port facilities prior to start of work. The facilities will be returned to the identical condition at project completion as they are found to be at project outset.

Sincerely,

Jack Akin, MS, PE
EMC, Engineers/Scientists, LLC
(on behalf of Port of Bandon, Oregon)
PIPE SEGMENT ASSEMBLY DETAIL

FLAT SURFACE
PER WELDER SPEC'S.

HEAT PIPE ENDS PER SPEC'S
HEAT PLATE PER WELDER MANUF.

BUTT FUSION WELD
MECHANICAL PRESS PER WELDER MANUF.

PIPE WELDING DETAIL
CONSULT WELDER MANUAL
FOR EXAMPLE OPERATIONS AND DETAILS.

**INITIAL PIPE SEGMENT ASSEMBLY**

NO SCALE

---

**DESIGN-FLOW**
Convoluted - Ductile Iron
IPS Bolt Rings
Designed Specifically for use with HDPE Flange Adapters
ASME / ANSI B16.5, B16.47 Sec.A CL150
B16.1 CL125 AWWA C207 B, D & E
(Dimensions in inches)

<table>
<thead>
<tr>
<th>T</th>
<th>1.25</th>
<th>1.50</th>
<th>1.60</th>
<th>1.75</th>
<th>1.90</th>
<th>2.10</th>
<th>2.25</th>
<th>2.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.68</td>
<td>21.00</td>
<td>14.38</td>
<td>16.75</td>
<td>1.2</td>
<td>1.0&quot;</td>
<td>160</td>
<td>270</td>
<td>40</td>
</tr>
<tr>
<td>14&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WPR (working pressure rating) is for free-floating rings on HDPE flange adapters and includes a 2:1 safety factor.
These are cast convoluted ductile iron metal bolt rings with 10g bolt-hole patterns.
The material is in compliance with ASTM A350 GR 65/65/12 and surface in Bright Red oil-based enamel paint.

FIGURE B

STERN
PIPE STRAPPED (2) PLACES
HDPE PIPE
9.5' RADIUS MINIMUM
2 KNOTS
WATER SURFACE
OCEAN = 25'
FLOWLANE OR IN-RIVER = 5'
WEIGHTED AGAINST FLUID JET FORCE
SEDIMENT DISPERSION
VESSEL, RAFT, OR DISPERSION UNIT
VESSEL ATTACHMENT DURING DISPOSAL
FIGURE C

SDR (STANDARD DIMENSIONAL RATIO) = 17

PULLED TENSILE STRENGTH OF PIPE MATERIAL = 38,088 lbs.

WT. = 14.63 lb. / ft.

14" DIA.
NOMINAL SIZE

T = 0.824"

10-12 FPS

40' OR 50' SECTIONS

BUTT WELDED AND FLANGE BOLTED SECTIONS

PIPE DETAILS
Flange Adapter Design Information

- **T** must be at least 1.25 times pipe wall thickness at full pressure rating.
- The face diameter fits inside bolt circle to promote alignment and concentricity, with sealing.
- **H** must be long enough to allow butt-fusion in all applicable fusion machines, size or size larger. Consult fusion machine manufacturers for their required minimum length.
- **R** must be matched to the radius of the metal bolting.
- Corrosion protected convoluted BoltRings for HDPE are recommended.
- Meet dimensions and requirements of ASTM F2398, ASTM F714, ASTM D3035, AWWA C601/C606 and NSF 61 standards as applicable.
- Flange adapters may be fused to same DR and to one standard DR higher. (i.e., DR-17 to DR-21)

<table>
<thead>
<tr>
<th>IPS</th>
<th>Required Size</th>
<th>T</th>
<th>OD</th>
<th>ID</th>
<th>Bolt Hole Circle</th>
<th>Number of Hole Seats</th>
<th>Diameter of Hole Seats</th>
<th>WPR (lbs/ft)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>3</td>
<td>3.6</td>
<td>2.8</td>
<td>9.1</td>
<td>4</td>
<td>5.95</td>
<td>278</td>
<td>1.3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>4.7</td>
<td>4.2</td>
<td>3.3</td>
<td>11.7</td>
<td>4</td>
<td>8.10</td>
<td>398</td>
<td>1.2</td>
</tr>
<tr>
<td>1 1/4</td>
<td>6</td>
<td>5.9</td>
<td>5.4</td>
<td>4.8</td>
<td>14.0</td>
<td>4</td>
<td>9.36</td>
<td>518</td>
<td>1.6</td>
</tr>
<tr>
<td>1 1/2</td>
<td>7</td>
<td>7.0</td>
<td>6.4</td>
<td>5.8</td>
<td>16.0</td>
<td>4</td>
<td>11.1</td>
<td>648</td>
<td>1.9</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>8.0</td>
<td>7.6</td>
<td>7.0</td>
<td>18.0</td>
<td>4</td>
<td>13.0</td>
<td>788</td>
<td>2.2</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>9.0</td>
<td>8.6</td>
<td>8.6</td>
<td>20.0</td>
<td>4</td>
<td>15.0</td>
<td>948</td>
<td>2.8</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>10.1</td>
<td>9.6</td>
<td>10.0</td>
<td>22.0</td>
<td>4</td>
<td>17.0</td>
<td>1128</td>
<td>3.4</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
<td>11.1</td>
<td>11.0</td>
<td>12.0</td>
<td>24.0</td>
<td>4</td>
<td>19.0</td>
<td>1308</td>
<td>4.0</td>
</tr>
</tbody>
</table>

**WPR** for high pressure ratings, 10% for lower pressure ratings. IPS Pipe flanges are typically used to join HDPE, PE, PP, CPVC, and other materials. The material is in compliance with ASTM D2466/ D2513 and is listed in the National Edison catalog.
FIGURE E

SDR (STANDARD DIMENSIONAL RATIO) = 17
PULLED TENSILE STRENGTH OF PIPE MATERIAL = 38,088 lbs.
WT. = 14.63 lb. / ft.

MAXIMUM DEFLECTION
\[ \Delta \text{ MAX. 12\%}, \text{ OR 2\%} \]

PIPE ANCHORS
SEE FIGURE "H"

36. CONTINUOUS BEAM—THREE EQUAL SPANS—ALL SPANS LOADED

\[
A = \frac{\pi (d^2 - d_1^2)}{4} = 0.785398 \left( d^2 - d_1^2 \right)
\]
\[
c = \frac{d}{2}
\]
\[
l = \frac{\pi (d^4 - d_1^4)}{64} = 0.049087 \left( d^4 - d_1^4 \right)
\]
\[
S = \frac{\pi (d^4 - d_1^4)}{32d} = 0.098175 \left( d^4 - d_1^4 \right)
\]
\[
r = \frac{\sqrt{d^2 + d_1^2}}{4}
\]
\[
z = \frac{d^3}{6} - \frac{d_1^3}{6}
\]

SPAN DIAGRAM

HOLLOW CIRCLE

Axis of moments through center

PROPERTIES OF GEOMETRIC SECTION

PIPE MAXIMUM DEFLECTION DETAILS
ASSEMBLED PIPE SEGMENT TRANSPORTATION NOTES:

1. PIPE WITHOUT BALLAST WEIGHTS MAY BE MOVED OVER THE GROUND PROVIDED IT IS FREE OF ROCKS, DEBRIS OR ANY OTHER MATERIAL THAT MAY DAMAGE THE PIPE.
2. WHEN THIS IS NOT PRACTICAL, WOODEN DUNNAGE OR WOODEN ROLLERS MAY BE PLACED BETWEEN THE PIPE AND THE GROUND SURFACE.
3. THE PIPE SHOULD BE MOVED USING SUITABLE EQUIPMENT. THE PIPE MAY BE MOVED BY LIFTING AND THEN PULLING IT USING ONE PIECE OF EQUIPMENT WHILE USING ANOTHER PIECE OF EQUIPMENT TO SIMULTANEOUSLY PUSH THE PIPE FROM ITS INBOARD END.
4. PE PIPE SHOULD ONLY BE LIFTED USING WIDE-BAND NYLON SLINGS, SPREADER SLINGS WITH ROPE OR BAND SLINGS, OR ANY OTHER MEANS THAT AVOIDS THE DEVELOPMENT OF CONCENTRATED POINT LOADING.
5. UNDER NO CONDITIONS SHOULD THE FLANGE ASSEMBLIES BE USED TO PULL THE PIPE.
6. PRIOR TO THE LAUNCHING OF THE PIPE INTO THE WATER, A STRATEGY SHOULD BE WORKED OUT TO CONTROL THE FLOATING PIPELINE AS IT MOVES INTO THE WATER AND TO STORE IT AWAY FROM NAVIGATIONAL TRAFFIC UNTIL SUCH TIME AS THE ENTIRE LENGTH IS READY FOR SUBMERGING.
7. FOR THIS PURPOSE, SUITABLE MARINE EQUIPMENT – SUCH AS BOATS THAT HAVE ADEQUATE TUGGING POWER AND MANEUVERABILITY – MAY NEED TO BE ON HAND.
FIGURE 1

LIGHTED BUOY REQUIREMENTS YET TO BE DETERMINED

WATER SURFACE

FLUKE, PLOW ANCHORS OR EQUIVALENT SEE FIGURE "H"

OCEAN FLOOR

AVERAGE HOLDING POWER

<table>
<thead>
<tr>
<th>ANCHOR TYPE</th>
<th>HOLDING POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluke (37)</td>
<td>3,263 lbs.</td>
</tr>
<tr>
<td>Fluke (35)</td>
<td>1,724 lbs.</td>
</tr>
<tr>
<td>Swivel Plow (45)</td>
<td>1,304 lbs.</td>
</tr>
<tr>
<td>Fixed Plow (17)</td>
<td>1,258 lbs.</td>
</tr>
<tr>
<td>Fixed Plow (35)</td>
<td>801 lbs.</td>
</tr>
<tr>
<td>Claw (44)</td>
<td>495 lbs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anchor Type</th>
<th>Weight</th>
<th>San Francisco Mud Results - Average</th>
<th>Slack Line</th>
<th>Florida Sand Test Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claw (44)</td>
<td>46</td>
<td>280</td>
<td>0</td>
<td>1883</td>
</tr>
<tr>
<td>Swivel Plow (45)</td>
<td>47</td>
<td>440</td>
<td>4</td>
<td>3350</td>
</tr>
<tr>
<td>Fixed Plow (35)</td>
<td>33</td>
<td>502</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>Fluke (H-1800)</td>
<td>33</td>
<td>725</td>
<td>4</td>
<td>3700</td>
</tr>
<tr>
<td>Fluke (37)</td>
<td>20</td>
<td>825</td>
<td>2</td>
<td>7580</td>
</tr>
<tr>
<td>Fixed Plow (38)</td>
<td>38</td>
<td>880</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

PIPE MOORING DETAILS
FIGURE J

Regulatory Buoy - ABS type
Filled with Urethane foam

LIGHTS EVERY 200' OPEN OCEAN,
LIGHTS EVERY 30' IN HARBOR.
SEE DETAIL "F3"

Symbol area

Per Manuf.

36" exposure
with 5 lbs.
anchor tackle

Urethane foam filled
Concrete Ballast
1/2" dia. galv. rod
1" I.D. steel mooring eye

STANDARD INLAND WATERWAY SYMBOLS AND MESSAGES

CONTROLLED AREA SYMBOL

12" band width

SLOW 5 MPH
SLOW NO WAKE
SKI AREA
NO SKI
SLOW 10 MPH
SPEED ZONE
NO WAKE IDLE SPEED

HAZARD WARNING SYMBOL

14" band width

ROCK
DANGER
RAPIDS
SHOAL
STUMP
SHALLOW AREA
HAZARDOUS
DANGER DAM

RESTRICTED AREA SYMBOL

11" band width

SWIM AREA
KEEP OUT
NO BOATS
BOATS KEEP OUT
CLOSED AREA
NO BOATING
DANGER DAM

INFORMATION SYMBOL

14" band width

REST ROOM 1 MILE
STATE PARK AHEAD
MARINA ENTRANCE
FISH ATTRACTOR

BUOY EXAMPLE
Required Features:

- Light source - LED's.
- Colors - amber red, green, clear.
  See details for actual color requirements.
- Compact, maintenance free.
- Estimated battery life, 3-5 years.
- Bolt down installation.
- High performance and reliable.
- Flash pattern - 15 or 60 fpm (flashes per minute)
- Rugged construction and solid state components.
- Photocell switch to detect daylight and turn off light.

LIGHTING EXAMPLE DETAIL
English Units

Janson’s nomograph was originally published in metric units. However, the curves presented in quadrants II and IV are dimensionless. By converting quadrants I and III and the horizontal axis to English units then the nomograph may be used for pipe sized and installed accordingly. For ease of reference, Janson’s nomograph is recreated using English units in figure A-2-2 below.

Figure A-2-2 Graph for the estimation of drag and lifting forces on underwater pipes when the flow rate of the current times the pipe diameter is 2.7 ft³/sec, or greater

DETAIL "E"
JANSON’S NOMOGRAPH
WeldTech 5100

Heating element butt welding machine for pipes and fittings out of polyethylene from 200mm to 450mm, for usage on building sites and in trenches. The machine has a double clamping device with quick clamping on the fixed and on the movable side guided by two hydraulic cylinders. There are two flexible hoses with quick-action couplings for connection to the hydraulic control unit. The double clamping devices are screwed to the steel pipe frame. The outer fixed clamping device can be easily dismounted by removing three screws for welding at difficult accessible places, e.g. in trenches or at branches of T-pieces. The remaining unit of three rings can be removed from the frame for use for repair work. The electric hydraulic unit for moving the right-hand clamping device and for the exact control of the welding forces has a pressure backup for supporting the welding force during cooling down and two quick-action couplings, as well as a digital pressure gauge for the exact indication of the pressure. The planer is suspended in the guide shafts, has a chain drive in a closed aluminium housing and an automatic external chip removal. The heating element is suspended in the guide shafts, is non-stick coated, has an electronic temperature control, control lamps, an on/off switch and a connecting cable with shock-proof plug. The separating device prevents the heating element from sticking to the pipe after the heating process. For the heat-protected storage of the heating element and the planer, a reception box is available. Smaller pipe dimensions can be clamped by means of reducer inserts depending on the pipe diameter. For the storage of the reducer inserts, optional transport cases can be supplied. All components are covered by the WeldTech works warranty. The WeldTech 5100 welding machine can easily be equipped subsequently with the WeldTech SPA weld log recorder (see page 20) and can also be supplied in CNC controlled version (see page 21). The WeldTech 5100 has a voltage of 230 V. Other voltages on request. Heating elements moving out automatically are available on request.

Set composition

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty.</th>
<th>Kg</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic machine with clamping device*</td>
<td>1</td>
<td>109.0</td>
<td>071100</td>
</tr>
<tr>
<td>OD 450 mm</td>
<td>1</td>
<td>37.0</td>
<td>0714220</td>
</tr>
<tr>
<td>OD 720*</td>
<td>2</td>
<td>2.0</td>
<td>VSCN5100</td>
</tr>
<tr>
<td>OD 400*</td>
<td>1</td>
<td>25.0</td>
<td>EIN5100</td>
</tr>
<tr>
<td>OD 225*</td>
<td>8</td>
<td>7.6</td>
<td>38036225</td>
</tr>
<tr>
<td>OD 250*</td>
<td>8</td>
<td>7.0</td>
<td>38036250</td>
</tr>
<tr>
<td>OD 315*</td>
<td>8</td>
<td>6.5</td>
<td>38036280</td>
</tr>
<tr>
<td>OD 220*</td>
<td>8</td>
<td>14.4</td>
<td>071142</td>
</tr>
<tr>
<td>OD 355*</td>
<td>8</td>
<td>16.5</td>
<td>07258255</td>
</tr>
<tr>
<td>OD 400*</td>
<td>8</td>
<td>12.0</td>
<td>07258400</td>
</tr>
<tr>
<td>Socket wrench, 27 mm</td>
<td>1</td>
<td>0.1</td>
<td>ZPS27</td>
</tr>
<tr>
<td>Allan key with T-grip, size 4</td>
<td>1</td>
<td>0.05</td>
<td>ZIT04</td>
</tr>
<tr>
<td>Allan key with T-grip, size 5</td>
<td>1</td>
<td>0.05</td>
<td>ZIT05</td>
</tr>
<tr>
<td>Allan key with T-grip, size 7</td>
<td>1</td>
<td>0.05</td>
<td>ZIT07</td>
</tr>
<tr>
<td>Allan key, size 3</td>
<td>1</td>
<td>0.05</td>
<td>ZIG03</td>
</tr>
<tr>
<td>Allan key, size 10</td>
<td>1</td>
<td>0.05</td>
<td>ZIG10</td>
</tr>
<tr>
<td>Hydraulic oil</td>
<td>1</td>
<td>1.0</td>
<td>HLPD35</td>
</tr>
<tr>
<td>Planer knife</td>
<td>1</td>
<td>145.0</td>
<td>TK6100</td>
</tr>
</tbody>
</table>

* available as SET

machines

reducer inserts

075V51N1
07V5420

09-22-15