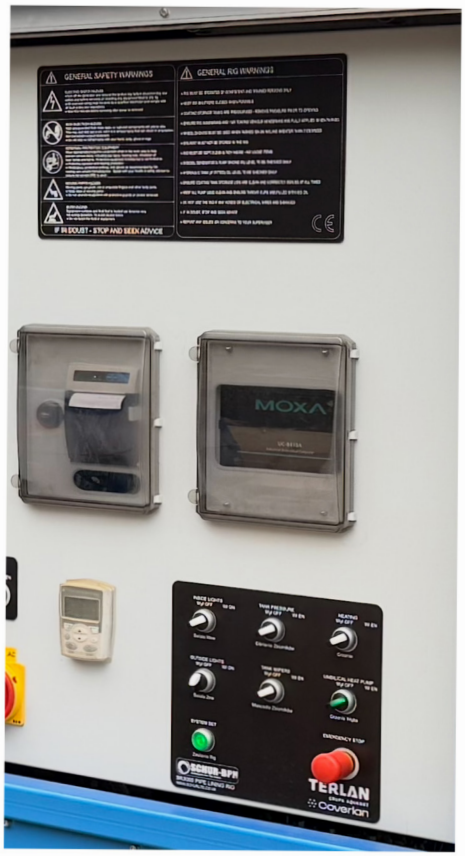
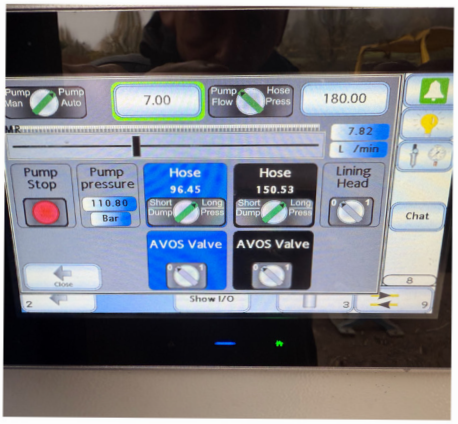
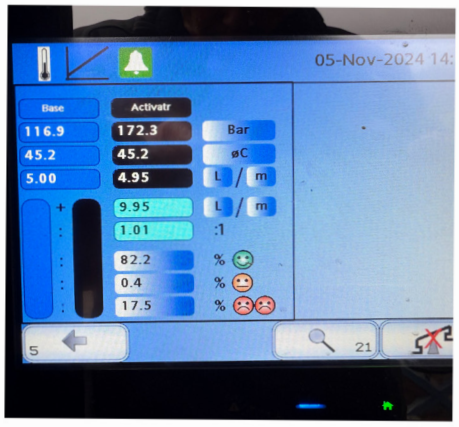
W.E.R.M.S – SIPP LINING RIG MONITORING







Fitted to all our SIPP Rigs

W.E.R.M.S, THE WORLDS MOST POPULAR SIPP MONITORING SYSTEM

W.E.R.M.S is a fully proven SIPP Rig monitoring system that is trusted by contractors around the world

Using various sensors fitted to the rig, **W.E.R.M.S** gives real-time and accurate information regarding the lining material condition, material ratio and application lining data when lining. This data is captured during lining and automatically emailed and stored once the lining is completed. **W.E.R.M.S** controls the whole SIPP application process and gives the worlds first completely automatic system

W.E.R.M.S is online and connected at all times giving you various options such as remote login / Calibration and **full rig control from anywhere in the world using any web enabled device.**

W.E.R.M.S, THE WORLDS MOST POPULAR SIPP MONITORING SYSTEM

- **WRc / DWI** approved for use on Potable water SIPP pipe lining
- **Non contact Flow Meters**, offering ultra accuracy, zero maintenance, zero downtime with spurious readings being a thing of the past
- **SMART CHECK** - A patent protected un-cheatable weight check system, the only one in the world that cannot be bypassed
- **DIAL-A-FLOW**, the worlds first fully automatic system controlling the flow rate along with the lining thickness, a truly "set and forget" system
- Online & connected at all times
- **AUDIT FORMS** enabled for paperless Quality assurance
- Developed & updated over 25 years
- Precise computer controlled Lining application
- Continually updated with many innovations
- Full remote access & control using any web enabled device
- GPS / email / full data logging
- Sun readable screens

RECORDED REAL-TIME PARAMETERS

- Base & Activator pressures
- Base & Activator temperatures
- Mix Ratio by volume
- Coating thickness
- Lining Speed
- Lining distance
- Base flow rate
- Activator flow rate
- Elapsed time
- Total time
- Flow Rate
- Operators Name
- GPS coordinates
- Weight check data
- Contractor name
- Pipe internal diameter
- Pipe length
- Coating material batch numbers
- Equipment serial number
- Date & Time

Sensors / items used:

- Non contact Flow Meters
- Pressure measurement
- Temperature measurement
- Speed encoders
- Radar tank level sensors
- GPS / Modem
- Printer
- USB data port
- Sun readable touch screens

OTHER INFORMATION

- Its now technically possible for 1 person to carry out the full SIPP process alone using any web enabled device, operating the rig in real-time remotely, please note that we don't recommend doing this alone due to safety
- Our software is written in house, this allows us to adjust the software to suit your specific requirements
- Non Contact flow meters are used to monitor Base & Activator ratios in real-time, we use high accuracy meters to ensure compliance
- Possible to accurately measure flow rates down to 0.1 L/minute

ALL DATA IS AUTOMATICALLY PRINTED / SAVED / EMAILED

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153643,START
153643,########################################
153643,            W.E.R.M.S
153643,
153643,Contractor:          MWS
153643,Rig Ref:             SPT042
153643,Date:                Mo 15/08/22
153643,Time:                15:37
153644,Contract:            6303
153644,Scheme/Location:     WAKEFIELD
153644,Street/Road:         LUNDHILL LA
153644,Resin Material:      RES-320
153644,Base    Batch No.1:  13822922
153644,Activatr Batch No.2: 13802922
153644,Last Calibration:    D. 1  M. 4  Y.2022
153644,Since Calibration:-
153644,          Base    :   14458.2 Litre
153644,          Activatr:   9484.8 Litre
153644,Operator:            CM
153644,Gang Reference:      MWS
153644,
153644,Hole Reference from:  12
153644,Hole Reference to:    13
153645,Pipe Diameter:          105 mm
153645,Pipe Material:       Cast Iron
153645,
153645,Auto Lining Thickness:    3 mm
153645,Auto Joint Thickness:   5.15 mm
153645,Manual Joint Factor:    0.7
153645,Rig Operating Mode:   Rig Operation
153645,Flow Detection:       Flowmeter
153645,
153645,S7226     PLC 3.88
153645,EXTER T70 HMI 3.75 L3  Log Yes ASC Yes
153645,########################################
153827,Weight Check Mode Mo 15/08/22     15:39
153827,                    Check 1 of 3
153827,Activatr Weight1  =   351.00 gms
153828,Base    Weight2  =   474.00 gms
153828,Mix Ratio        = 100:74.050
153828,% between Results =   0.00%.
153828,Flows: B 2.19L/M   A 1.47L/M   MR 1.49
153828,Check Result:    Pass
153828,           ##########
154216,Weight Check Mode Mo 15/08/22     15:43
154216,                    Check 2 of 3
154216,Activatr Weight2  =   326.00 gms
154216,Base    Weight2  =   440.00 gms
154216,Mix Ratio        = 100:74.090
154216,% between Results =   0.05%.
154216,Flows: B 1.78L/M   A 1.19L/M   MR  1.5
154218,Check Result:    Pass
154218,           ##########
154551,Weight Check Mode Mo 15/08/22     15:46
154551,                    Check 3 of 3
154551,Activatr Weight3  =   345.00 gms
154551,Base    Weight4  =   466.00 gms
154551,Mix Ratio        = 100:74.034
154551,% between Results =   0.08%.
154552,Flows: B 1.78L/M   A 1.19L/M   MR 1.49
154554,Check Result:    Pass
154554,           ##########
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160340,########################################
160341,Spin Up Mode      Mo 15/08/22     16:04
160341,          Pressures
160341,Time      B       A       Flow      MR
160356, 0:15  135.17  56.315  3.0034     1.5
160416, 0:35  129.68  52.992  3.4420    1.49
160436, 0:55  109.28  45.161  3.2794    1.49
160456, 1:15  112.12  46.034  3.1034    1.49
160516, 1:35  117.75  49.026  2.9277    1.49
160536, 1:55  132.69  53.266  3.1473    1.49
160549,Spin Up Timer:        30 secs
160549,########################################
160549,Lining Mode       Mo 15/08/22     16:06
160549,Pipe Offset       0 M
160549,Temperatures Base      34 Activatr  32
160549,             Press
160549,Time  Lined  B   A  Flow Speed  MR   TK
160549,Man            Joints Off   Diams Off
160606, 0:15 0.869 130  53 3.19 2.75 1.49 3.66
160626, 0:35 1.876 130  53 3.25 3.21 1.49 3.16
160627,Auto     3 mm  Joints Off   Diams Off
160647, 0:55 3.009 122  49 3.32 3.47 1.49 2.98
160706, 1:15 4.076 125  52 3.15 3.35 1.49 2.92
160727, 1:35 5.175 124  51 2.96 3.22 1.49 2.86
160745, 1:55 6.125 111  45 2.82 3.03 1.49 2.90
160806, 2:15 7.143 118  49 2.90 2.99  1.5 3.02
160827, 2:35 8.222 122  48 3.10 3.15 1.49 3.07
160829,
160829,MR OK   100 Error     0  Temp B 33 A 32
160829,TK OK   100 Error     0  Fail     0
160829,Auto     3mm I Joint  5.15mm I X   0.7
160829,
160829,Time  Lined  B   A  Flow Speed  MR   TK
160845, 2:55 9.239 121  48 3.18 3.26 1.49 3.03
160908, 3:15 10.42 121  50 3.20 3.29 1.49 3.03
160926, 3:35 11.48 123  49 3.17 3.32 1.49 2.97
160945, 3:55 12.54 126  51 3.11 3.26 1.49 3.00
161005, 4:15 13.50 129  53 3.05 3.21 1.49 2.99
161027, 4:35 14.47 129  53 3.01 3.09 1.49 3.04
161047, 4:55 15.53 132  55 2.97 3.08 1.49 3.00
161106, 5:15 16.50 130  54 2.92 3.08 1.49 2.97
161108,
161108,MR OK   100 Error     0  Temp B 33 A 32
161108,TK OK   100 Error     0  Fail     0
161108,Auto     3mm I Joint  5.15mm I X   0.7
161108,
161108,Time  Lined  B   A  Flow Speed  MR   TK
161126, 5:35 17.52 126  52 2.92 3.03  1.5 2.98
161146, 5:55 18.57 119  49 2.98 3.10 1.49 2.99
161207, 6:15 19.65 119  47 3.01 3.15 1.49 2.98
161226, 6:35 20.62 124  51 2.95 3.09 1.49 2.98
161246, 6:55 21.66 127  52 2.90 3.03 1.49 2.98
161305, 7:15 22.62 138  57 3.05 3.03  1.5 3.14
161326, 7:35 23.74 139  57 3.16 3.20 1.49 3.08
161347, 7:55 24.92 136  56 3.36 3.43 1.49 3.05
161349,
161349,MR OK   100 Error     0  Temp B 33 A 32
161349,TK OK   100 Error     0  Fail     0
161349,Auto     3mm I Joint  5.15mm I X   0.7
161349,
161349,Time  Lined  B   A  Flow Speed  MR   TK
161405, 8:15 25.96 127  52 3.11 3.30  1.5 2.93
161426, 8:35 27.06 117  49 3.03 3.15 1.49 2.93
161446, 8:55 28.08 124  50 2.81 2.96 1.49 2.95
161505, 9:15 29.02 134  54 3.06 3.09  1.5 3.08
161526, 9:35 30.17 127  51 3.22 3.25 1.49 3.08
161546, 9:55 31.23 133  55 3.20 3.31 1.49 3.01
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