

# Preventive Maintenance Protocol

## MilkoScan™ Mars

|                                                                |
|----------------------------------------------------------------|
| <input checked="" type="checkbox"/> <b>On Site Maintenance</b> |
| <input type="checkbox"/> <b>Remote Maintenance</b>             |

|                        |              |
|------------------------|--------------|
| <b>PM Interval</b>     | 12 Months    |
| <b>PM Kit (P/N)</b>    | 6006 7320    |
| <b>Production date</b> | > 30.09.2020 |

|                          |
|--------------------------|
| Instrument Serial No.:   |
| No. of Samples Analysed: |
| Date:                    |

## 1 Introduction

A maintenance protocol provides a systematic and functional means of maintaining a specific instrument type. The certified performed PM interval depends on the operational conditions and is based on our extensive experience and knowledge of manufacturing and maintaining analytical instruments.

Apart from sample throughput, the environmental conditions also need to be considered. Demanding environments, such as high ambient temperature, humidity, dirtiness etc can measurably shorten component lifetime and the maintenance and component replacement intervals.

**FOSS**

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## 2 Maintenance Procedures

See the latest Spare Parts Manual: SPM 6006 5575

| Module        | Page | Pos         | Part                                 | Action              | Qty | P/N       | OK                       |
|---------------|------|-------------|--------------------------------------|---------------------|-----|-----------|--------------------------|
| Pump Manifold | 15   | 4           | O-ring ø005.00 x ø1.00 FPM 70        | Replace             | 1   | 6001 5274 | <input type="checkbox"/> |
| Pump Manifold | 15   | 5           | Piston Assy                          | Replace             | 1   | 6006 5776 | <input type="checkbox"/> |
| Pump Manifold | 15   | 15          | Glass cylinder Ø7.00 for pump        | Replace             | 1   | 6005 2421 | <input type="checkbox"/> |
| Pump Manifold | 15   | 16          | O-ring ø007.10 x ø1.60 FPM 75        | Replace             | 1   | 1542 0074 | <input type="checkbox"/> |
| Front Cabinet | 19   | 305         | Allen screw M02.5 x 012 MSP-A4       | Replace             | 1   | 6005 5561 | <input type="checkbox"/> |
| N/A           | N/A  | N/A         | Allen key 0.05" L-type short         | Unscrew/<br>tighten | 1   | 6006 7146 | <input type="checkbox"/> |
| Detector Unit | 7    | 1-2         | O-ring ø005.00 x ø1.00 FPM 70        | Replace             | 2   | 6001 5274 | <input type="checkbox"/> |
| Detector Unit | 7    | 13          | Spring Ø0.63 /Ø4.37/13.60            | Replace             | 1   | 6005 4130 | <input type="checkbox"/> |
| Detector Unit | 7    | 14          | Membrane ø12 for BPV                 | Replace             | 1   | 6005 3831 | <input type="checkbox"/> |
| Pipette       | 29   | 26          | O-ring Ø002.00 x Ø1.00 FPM 80        | Replace             | 1   | 6001 5336 | <input type="checkbox"/> |
| Sample Heater | 5    | 6           | O-ring ø001.78 x 1.78 FPM 80         | Replace             | 4   | 0024 3667 | <input type="checkbox"/> |
| Tubing        | 35   | 550/<br>551 | Tube Ø01.4 /Ø3.1 Silicone L=400 mm   | Replace             | 1   | 6004 5808 | <input type="checkbox"/> |
| Tubing        | 35   | 552         | Tube ø1/8" /ø1.6 PTFE L=130 mm       | Replace             | 1   | 6006 4453 | <input type="checkbox"/> |
| Tubing        | 35   | 553         | Tube ø1/8" /ø1.6 PTFE L=210 mm       | Replace             | 1   | 6006 4457 | <input type="checkbox"/> |
| Tubing        | 15   | 550         | Tube Ø01.4 /Ø3.1 Silicone L=200 mm   | Replace             | 1   | 6004 5808 | <input type="checkbox"/> |
| Tubing        | 15   | 551         | Tube Ø01.4 /Ø3.1 Silicone L=190 mm   | Replace             | 1   | 6004 5808 | <input type="checkbox"/> |
| Tubing        | 15   | 552         | Tube Ø01.4 /Ø3.1 Silicone L=235 mm   | Replace             | 1   | 6004 5808 | <input type="checkbox"/> |
| Tubing        | 35   | 554         | Tube ø1/8" /ø1.6 PTFE L=300 mm       | Replace             | 1   | 6006 4458 | <input type="checkbox"/> |
| Tubing        | 35   | 555         | Tube ø06.0 /Ø9.0 Silicone L=1 m      | Replace             | 1   | 6006 8014 | <input type="checkbox"/> |
| Tubing        | 35   | 556         | Tube Ø01.4 /Ø3.1 Silicone L=400 mm   | Replace             | 1   | 6004 5808 | <input type="checkbox"/> |
| Tubing        | 35   | 558         | Tube Ø01.4 /Ø3.1 Silicone L=200 mm   | Replace             | 1   | 6004 5808 | <input type="checkbox"/> |
| N/A           | N/A  | N/A         | Tube kit for BeerFoss FT GO          | Not used            | 1   | 6009 5661 | <input type="checkbox"/> |
|               |      |             | Label sheet Clean and Zero for Tubes | Replace             |     | 6008 8500 | <input type="checkbox"/> |
| Front Cabinet | 19   | 9.1.4       | Dust membrane                        | Inspect *           | 1   | 6005 4369 | <input type="checkbox"/> |
| Sub Frame     | 21   | 2           | Damper Lord mount 106PDL1556-2       | Inspect *           | 3   | 6008 4805 | <input type="checkbox"/> |

Inspect \*: Dust membrane (P/N 6005 4369) and Damper Lord mount 106PDL1556-2 (P/N 6008 4805) have shown that they will last 3-4 years before the rubber deteriorates. So, to catch breakdowns before they happen, they need to be inspected every year, and when beginning of showing wear (the rubber begins to discolor and/or crack), they should as a minimum be replaced by the next Preventive Maintenance visit.

See the latest Service Manual and User Manual: SM 6006 5576 and UM 6006 5572

| Action                                                                              | OK                       |
|-------------------------------------------------------------------------------------|--------------------------|
| Perform Self-test and verify the result                                             | <input type="checkbox"/> |
| Back-up the DataBase                                                                | <input type="checkbox"/> |
| Run DataBase check                                                                  | <input type="checkbox"/> |
| Check functionality of all the Valves and the Pump via the electronic Flow Diagram  | <input type="checkbox"/> |
| Check IR Peak-to-Peak in Service screen (must be > 30%)                             | <input type="checkbox"/> |
| Check/measure back Pressure (must be stable $\pm 0.1$ bar while Sample measurement) | <input type="checkbox"/> |
| Run Zero Setting 3 times, to check repeatability                                    | <input type="checkbox"/> |
| Run 3 x Milk Sample, to check repeatability                                         | <input type="checkbox"/> |

**Note:** The total time is an approximate time. Depending on e.g. the current status and the accessibility of the instrument, this time might vary. Please round off to nearest quarter of an hour.

| Total Time [Hours] |
|--------------------|
| 3.0                |

|                          |            |
|--------------------------|------------|
| Customer representative: | Signature: |
| FOSS representative:     | Signature: |