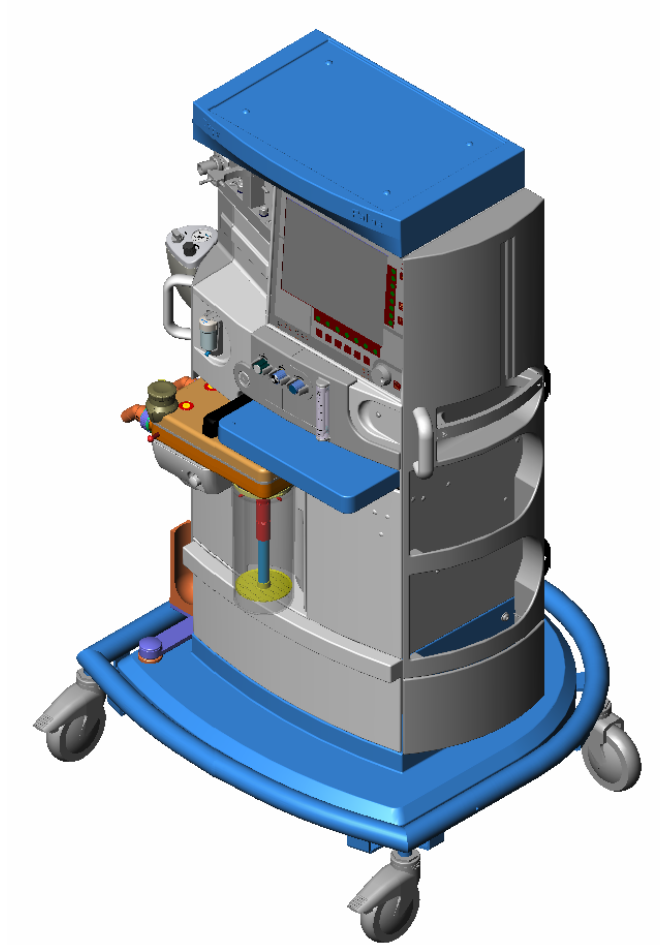


## Conversion Instruction

### Kit PGM SW 1.36.00 for Apollo 8607990



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## 1 Scope

The conversion kit “PGM SW 1.36.00 Apollo 8607990” consists of:

1 PGM SW 1.36.00 / MFM SW 3.01.00 on CD-ROM	6872000
1 label for labeling the PGM software version	8601522
1 copy of Conversion Instructions PGM 1.36.00	8607989

## 2 Technical Information

These Conversion Instructions are intended for use when updating the PGM software of the anesthesia workstation Apollo with software 3.21.05 to PGM software 1.36.00 / MFM software 3.01.00.

The Apollo anesthesia workstation must have software version 03.21.05 prior to updating the PGM module with the software contained in this conversion kit.

In addition to other improvements, PGM SW 1.36.00 includes the following:

- More tolerance in ambient conditions having higher CO<sub>2</sub> concentrations;
- Measured value display maintained for smaller anesthetic gas concentrations i.e. if a specific threshold has been exceeded the type of gas and its concentration are determined and displayed; this increases availability of the measurements when administering anesthesia with smaller anesthetic agent concentrations;
- Pressure limitation and gentler acceleration of pump control for PGM water trap; this should prevent water being sucked through a plugged water trap;
- Dry flow provided when Apollo is switched to standby in order to prevent condensation in the PGM.

## 3 General Notice

The conversion described here should only be carried out by qualified service technicians.

## 4 Tools

- Basic tools will be needed.
- Service PC with service software (version  $\geq 11.0.0.2$ ) as given in the instructions “Software Download Apollo”
- RS232 extension cord 79 01 808

## 5 Test Equipment

- Basic test equipment will be needed.
- Service PC with service software (version  $\geq 11.0.0.2$ )

## 6 Conversion Instructions

### 6.1 Preparatory Work

- Pay special attention to the notes in the repair instructions “Software Download with Service Software version 11.0 or higher” found on eSIS/DORIS.

## **6.2 Downloading software as per Repair Instructions Primus/Apollo** **“Software Download with Service Software version 11.0 or higher” found on eSIS/Doris**

Pay special attention to traceability (DMS IB 5400)!

**ATTENTION:** The following is valid for a PGM software update:  
Apollo must be equipped with software version 03.21.05. PGM software version 1.36.00 and MFM software version 3.01.00 must be installed.

There are deviations from the usual process as given in the Repair Instructions Primus/Apollo “Software Download”. If these are not followed, the PGM can fail!

**ATTENTION:** The following is valid:  
After the download is finished, do NOT switch off the anesthesia machine; allow the machine to run at least 3 min (the download program must be FINISHED). Afterwards, continue with the Repair Instructions Primus/Apollo “Software Download”.

If the power-on self test for PGM fails after this (yellow indicator), cancel the self test and switch Primus off and back on again. Repeat the power-on self test.

## **6.3 Labeling**

Attach the label included in this conversion kit (8601522) to the type plate device to clearly identify the upgrade PGM software.

## **6.4 Oxygen Measurement Testing**

- Switch on Apollo.
- Allow the power-on self test to run.
- Open only the fresh gas delivery valve for oxygen (5 L/min O<sub>2</sub> flow).
- The set oxygen (fresh-gas) flow will be displayed by the virtual oxygen flow meter.
- Ventilate a test lung with the settings: VOLUME Mode, Vt 400, Freq 15, Peep 5.
- After a little while the oxygen concentration displayed in the gas measurement field must be  $\geq 95$  Vol.% and should not exceed 100%.
- Close the oxygen delivery valve and open the fresh-gas delivery valve for air (5 L/min air flow).
- The set air (fresh-gas) flow will be displayed by the virtual air flow meter.
- After a little while the oxygen concentration displayed in the gas measurement field must be  $\leq 25$  Vol.%. During this test N<sub>2</sub>O must not be measured.
- Close all fresh-gas delivery valves.

## **7 Testing**

- Carry out final testing as per Repair Instructions “Software Download”

## **8 Complete and return** the leaflet at the end of these conversion instructions.

Rückmeldebogen / Return leaflet "APOLLO"

**Auszufüllen vor Ort / to be completed in the field:**

<b>Angaben zum Gerät / details about the device:</b>					
Gerätestandort (Stadt, Land) / location of device (city, country):					
Kundenname / customer's name:					
Materialnummer des APOLLO. / part number of APOLLO:					
Serialnummer des APOLLO / serial number of APOLLO:					
Technische ID des APOLLO / technical ID of APOLLO:					
Software / installed software:		Vers.:	Bereits vorhanden / already installed:	Neu eingebaut / replaced:	
Serialnummer der Software / serial number of installed software:					
<b>Die Umrüstung wurde vorgenommen von / conversion done by:</b>					
Name / name:					
Firma / company:					
Abteilung / department:					
Datum / date:					
Bemerkung (z.B. Reparatur) / comments (e.g. repair):					

Bitte senden Sie diesen Bogen nach Einbau des Rüstsatzes zurück an: **FAX: +49-451-882-74403**

Please return this completed leaflet back to **FAX: +49-451-882-74403** after installation of the conversion kit.

Vielen Dank für Ihre Bemühungen ! / Thank you for your support !

**Dräger Medical AG & Co. KG, Moislinger Allee 53-55, D-23542 Lübeck**