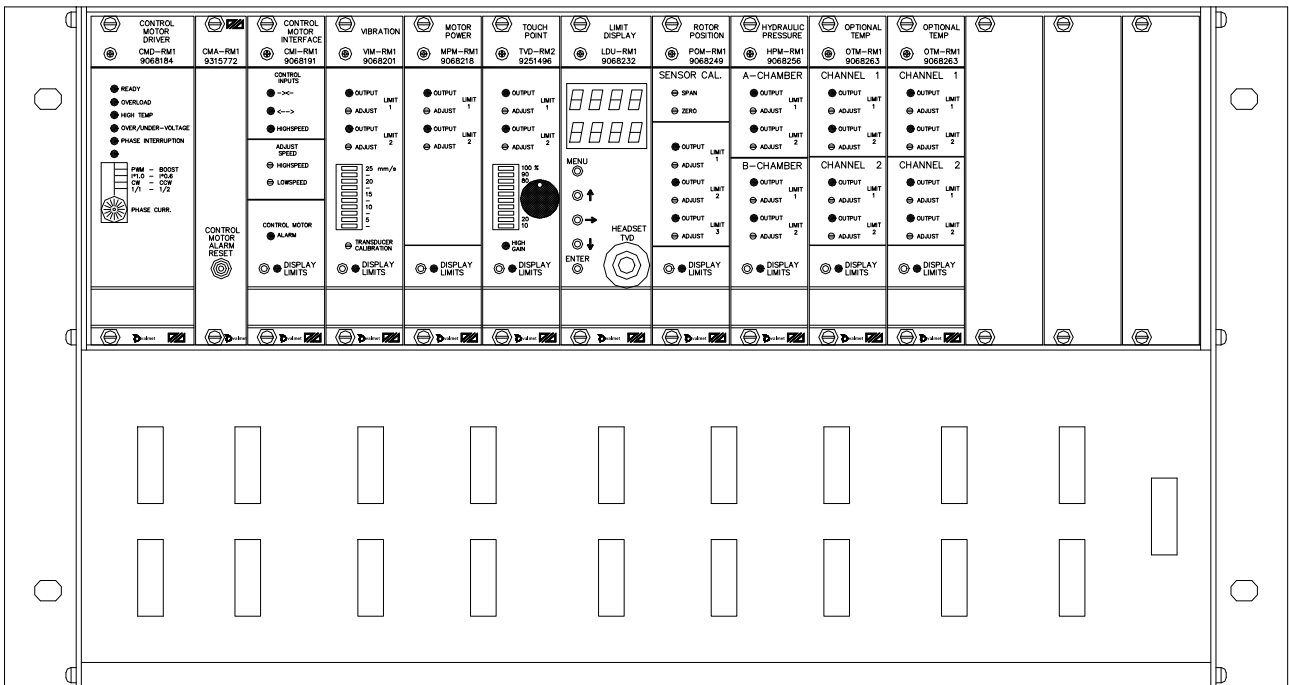


dametric 

CALIBRATION

RMS-EX1



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1 CALIBRATION

1.1 RMC – REFINER MOVEMENT CONTROL

1.1.1 GENERAL

RMC is an option and this instruction is not applicable if the RMC function is not used.

RMC must be calibrated when the plates are changed. A calibration means that a production position (an axial position of the rotor) is generated when the plates are contacting in an idling refiner (touch point).

The function is saving the last position of the rotor during production as the “production position”, and this position is then used at the next production start.

The settings of the parameters for the RMC function are done in the LDU unit and are described in the programming manual for the RMS-EX system (PRO-EX1).

1.1.2 CALIBRATION WITH A PDU DISPLAY

BEFORE CALIBRATION

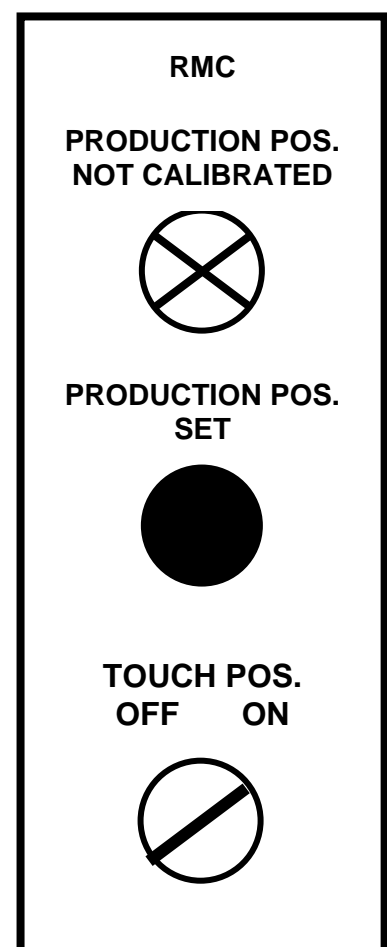
- The lamp for "PRODUCTION POS. NOT CALIBRATED " is lit.
- Set the key switch "TOUCH POS." in the "ON" position.
The info display on the PDU unit indicates "RMC Calibration" and "Touch Lev XX % Y". The "XX" value means the TVD-limit needed for a valid touch point (there is also a minimum time value connected to the TVD-limit). “Y” indicates the calibration type: H = by Hand, A = Automatic.

CALIBRATION

- Run the discs carefully together until the TVD-value is larger than the indicated TVD-limit and the display will indicate "RMC Retraction" and "Pr.St.Pos -X.XXr".
- This means that the touch position is valid and the “-X.XXr” is the actual rotor position relative to the start position that was created by the touch point.
- If manual calibration (H):
Run the discs apart until the value is 0.00 ± 0.10 , which means that the refiner is in the production start position.
- If automatic calibration (A):
The LDU will automatically run the discs apart to the production start position.
- The display will indicate "RMC Calibrated" and "Pr.St.Pos XX.XX" when the rotor is backed off to the production start position.

COMPLETE CALIBRATION

- Set the key switch "TOUCH POS." in the "OFF" position.
Push the switch for "PRODUCTION POS. SET" to acknowledge a completed calibration. The lamp "PRODUCTION POS. NOT CALIBRATED" is turned off and the PDU-display returns to normal readout.



1.1.3 CALIBRATION WITH AN OPERATORS PANEL

BEFORE CALIBRATION

- Select "RMC CALIBRATION" on the operators panel to present the window for RMC calibration.
- The indicator shows "RMC NOT CALIBRATED".
- Push "TOUCHPOINT ON" and the information window will indicate "RMC Calibration" and "Touch Lev XX % Y". "XX"-is the value of the TVD-limit that establishes the touch point. "Y" is the calibration type, H for manual or A for automatic.

CALIBRATION

- Run the plates carefully together until the TVD-value is higher than the indicated limit. The information window will then change and instead indicate "RMC Retraction" and "Pr.St.Pos - X.XXr".
- This means that the touch point is valid and the indicated rotor position is relative the start position that was created during the calibration.

Manual calibration:

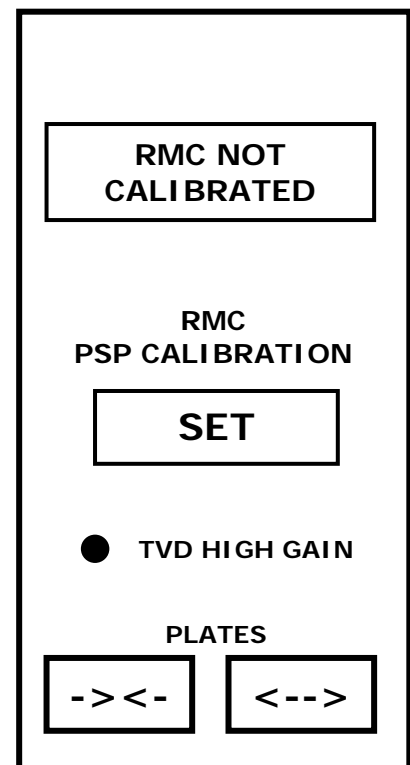
- Run the plates apart until the value reads 0.00 ± 0.10 . The rotor position is now in the start position for production. The display indicates "RMC Calibrated" and "Pr.St.Pos XX.XX".

Automatic calibration:

- The system will automatically run the plates apart to the start position for production.

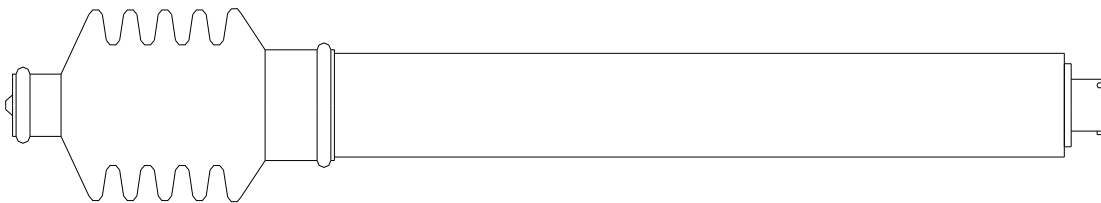
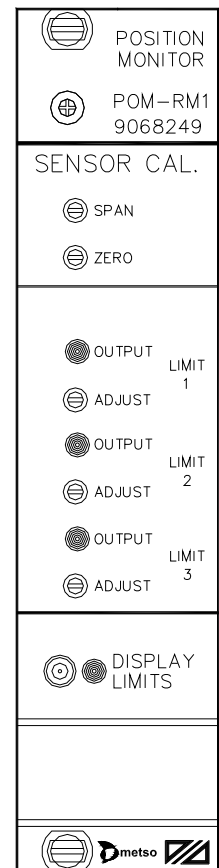
FINISH CALIBRATION

- Push the "TOUCHPOINT OFF".
- Push the "SET" button to acknowledge calibration. The indicator reads "RMC CALIBRATED".



1.2 CALIBRATION OF THE ROTOR POSITION TRANSDUCER, POT-50

- Remove the transducer from the holder.
- The position value is read from the PDU-RM3 or the POI-50, Position Indicator. Alternatively, the LDU-unit can be used for monitoring. Push the "Display Limits" on the POM-RM1 unit to display the value on the LDU-RM1 unit. Check that the lower row indicates "C 1".
- Push the measuring rod of the transducer to the fully inner position. Adjust the potentiometer "ZERO" on the POM-RM1 unit until the monitor reads 0.00 mm.
- Release the measuring rod so it is fully expanded. Adjust the potentiometer "SPAN" until the LDU-unit reads 50.00 mm.
- Move the grinding discs together to the contact point with stationary discs.
- Mount the transducer to the holder, adjust until the monitor displays the chosen value. Fix the sensor in this position. The sensor is mechanically limited to 50 mm stroke length. It is therefore essential that the refiners stroke length is within that of the sensor. If the sensor is forced beyond the inner endpoint, it will be destroyed.



2 ADJUSTMENT

General

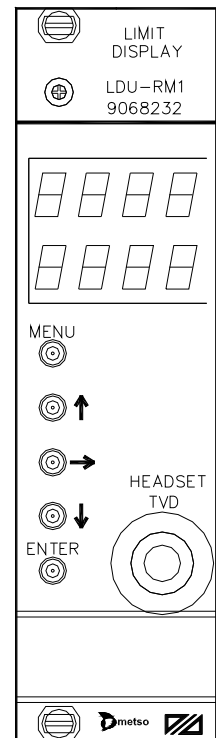
Select a RMS unit to the LDU unit display by the push-button **"DISPLAY LIMITS"**. The display will indicate the selected unit for about 2 minutes and then automatically be shut off. If the **"→"** button is activated, the auto shutoff is disabled (indicated by a dot in the lower right corner).

Push the **"DISPLAY LIMITS"** again to return to normal mode (with auto shutoff).

Press **"MENU"** to deactivate the selected RMS unit from the display.

The display on the LDU unit can only indicate one value and its indicator at the same time. Use the **"↑"** and **"↓"** buttons to step between the measured values and the limits for the selected RMS unit.

The upper row shows the value and the lower the indicator.



2.1 ADJUSTMENT OF THE CMI-RM1

Push the **"DISPLAY LIMITS"** on the CMI-RM1.

HIGH SPEED

Step until the indicator shows **"H_SP"** and adjust the potentiometer **"HIGHSPEED"**. The value can be adjusted between 50 and 150%. If set to 100%, the rotor travel speed will be 0.25 mm/s. If the stepping motor is working while adjusting, the change will be effective upon the next activation.



LOWSPEED

Step until the indicator shows **"L_SP"** and adjust the potentiometer **"LOWSPEED"**. The value can be adjusted between 50 and 150%. If set to 100%, the rotor travel speed will be 0.05 mm/s. If the stepping motor is working while adjusting, the change will be effective upon the next activation.

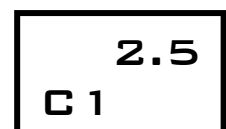


2.2 ADJUSTMENT OF THE VIM-RM1

Push the **"DISPLAY LIMITS"** on the VIM-RM1.

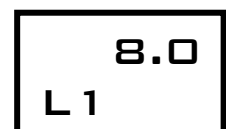
MEASURED VALUE

The measured value is indicated by **"C1"**



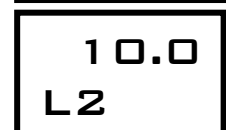
ADJUSTMENT LIMIT 1

Step to and read the value at **"L1"** and adjust the potentiometer **"LIMIT 1"** to the desired value. Allowed interval, 0 to 25 mm/s.



ADJUSTMENT LIMIT 2

Step to and read the value at **"L2"** and adjust the potentiometer **"LIMIT 2"** to the desired value. Allowed interval, 0 to 25 mm/s.



2.3 ADJUSTMENT OF THE MPM-RM2

Push the "DISPLAY LIMITS" on the MPM-RM2. The shown values are calculated according to the programmed motor power in the LDU unit (see the EX-system programming manual, PRO-EX1).

MEASURED VALUE

The measured value for the motor power is indicated by "C1"

5.00 C 1

ADJUSTMENT LIMIT 1 (low)

Step to and read the value at "L1" and adjust the potentiometer "LIMIT 1" to the desired value. Allowed interval, 0 to 100% of nominal main motor power.

2.00 L 1

ADJUSTMENT LIMIT 2 (low-low)

Step to and read the value at "L2" and adjust the potentiometer "LIMIT 2" to the desired value. Allowed interval, 0 to 100% of nominal main motor power.

1.00 L 2

ADJUSTMENT LIMIT 3, (level)

Step to and read the value at "L3" and adjust the potentiometer "LEVEL ADJUST" to the desired value. Allowed interval, 0 to 100% of nominal main motor power.

1.00 L 3

ADJUSTMENT LIMIT 4, (time)

Step to and read the value at "L4" and adjust the potentiometer "TIME ADJUST" to the desired value. Allowed interval, 0 to 10.0 s.

5.0 L 4

2.4 ADJUSTMENT OF THE TVD-RM3

Push the "DISPLAY LIMITS" on the TVD-RM3.

MEASURED VALUE

The measured value is indicated by "C1"

10 C 1

ADJUSTMENT LIMIT 1

Step to and read the value at "Lm 1" and adjust the potentiometer "LIMIT 1" to the desired value. Allowed interval, 0 to 100%.

50 L 1

ADJUSTMENT LIMIT 2

Step to and read the value at "Lm 2" and adjust the potentiometer "LIMIT 2" to the desired value. Allowed interval, 0 to 100%.

30 L 2

2.5 ADJUSTMENT OF THE POM-RM1

Push the "DISPLAY LIMITS" on the POM-RM1.

MEASURED VALUE

The measured value is indicated by "C1"

25.26
C 1

ADJUSTMENT LIMIT 1

Step to and read the value at "L1" and adjust the potentiometer "LIMIT 1" to the desired value. Allowed interval, 0 to 50.0 mm.

35.00
L 1

ADJUSTMENT LIMIT 2

Step to and read the value at "L2" and adjust the potentiometer "LIMIT 2" to the desired value. Allowed interval, 0 to 50.0 mm.

28.00
L 2

ADJUSTMENT LIMIT 3

Step to and read the value at "L3" and adjust the potentiometer "LIMIT 3" to the desired value. Allowed interval, 0 to 50.0 mm.

8.00
L 3

2.6 ADJUSTMENT OF THE HPM-RM1

Push the "DISPLAY LIMITS" on the HPM-RM1. The shown values are calculated according to the programmed A- and B-chamber pressures in the LDU unit (see the EX-system programming manual, PRO-EX1).

MEASURED VALUES

The measured value for channel 1 is indicated by "C1"

The measured value for channel 2 is indicated by "C2"

55.6
C 1

15.2
C 2

ADJUSTMENT, A-CHAMBER PRESSURE LIMIT 1

Step to and read the value at "C1L1" and adjust the potentiometer "A-CHAMBER, LIMIT 1" to the desired value.

Allowed interval, 0 to 100 % of nominal A-chamber pressure.

35.0
C 1 L 1

ADJUSTMENT, A-CHAMBER PRESSURE LIMIT 2

Step to and read the value at "C1L2" and adjust the potentiometer "A-CHAMBER, LIMIT 2" to the desired value.

Allowed interval, 0 to 100 % of nominal A-chamber pressure.

30.0
C 1 L 2

ADJUSTMENT, B-CHAMBER PRESSURE LIMIT 1

Step to and read the value at "C2L1" and adjust the potentiometer "B-CHAMBER, LIMIT 3" to the desired value.

Allowed interval, 0 to 100 % of nominal B-chamber pressure.

15.0
C 2 L 1

ADJUSTMENT, B-CHAMBER PRESSURE LIMIT 2

Step to and read the value at "C2L2" and adjust the potentiometer "B-CHAMBER, LIMIT 4" to the desired value.

Allowed interval, 0 to 100 % of nominal B-chamber pressure.

5.0
C 2 L 2

2.7 ADJUSTMENT OF THE OTM-RM1

Push the "DISPLAY LIMITS" on the OTM-RM1. The shown values are calculated according to the preset temperature range, 100 or 200°C. The range is set on the OTM board by DIP-switches.

MEASURED VALUES

The measured value for channel 1 is indicated by "C1"

The measured value for channel 2 is indicated by "C2"

	55
C 1	

	65
C 2	

ADJUST CHANNEL-1, LIMIT 1

Step to and read the value at "C1L1" and adjust the potentiometer "CHANNEL 1, LIMIT 1" to the desired value. Allowed interval, 0 to 100% of the temperature range.

	65
C 1 L 1	

ADJUST CHANNEL-1, LIMIT 2

Step to and read the value at "C1L2" and adjust the potentiometer "CHANNEL 1, LIMIT 2" to the desired value. Allowed interval, 0 to 100% of the temperature range.

	70
C 1 L 2	

ADJUST CHANNEL-2, LIMIT 1

Step to and read the value at "C2L1" and adjust the potentiometer "CHANNEL 2, LIMIT 1" to the desired value. Allowed interval, 0 to 100% of the temperature range.

	75
C 2 L 1	

ADJUST CHANNEL-2, LIMIT 2

Step to and read the value at "C2L2" and adjust the potentiometer "CHANNEL 2, LIMIT 2" to the desired value. Allowed interval, 0 to 100% of the temperature range.

	80
C 2 L 2	

2.8 ADJUSTMENT OF THE CARD SLOT FOR EX1

Another OTM or HPM-unit can be installed in this card slot.

2.9 ADJUSTMENT OF THE CARD SLOT FOR EX2

Another OTM or HPM-unit can be installed in this card slot.

2.10 ADJUSTMENT OF THE CARD SLOT FOR EX3

This card slot is reserved for future functions. No other standard RMS unit can be installed here due to the restricted board width.

3 CONTACT

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