S 805 / S 815 Flex Separation

Alarms and Fault Finding

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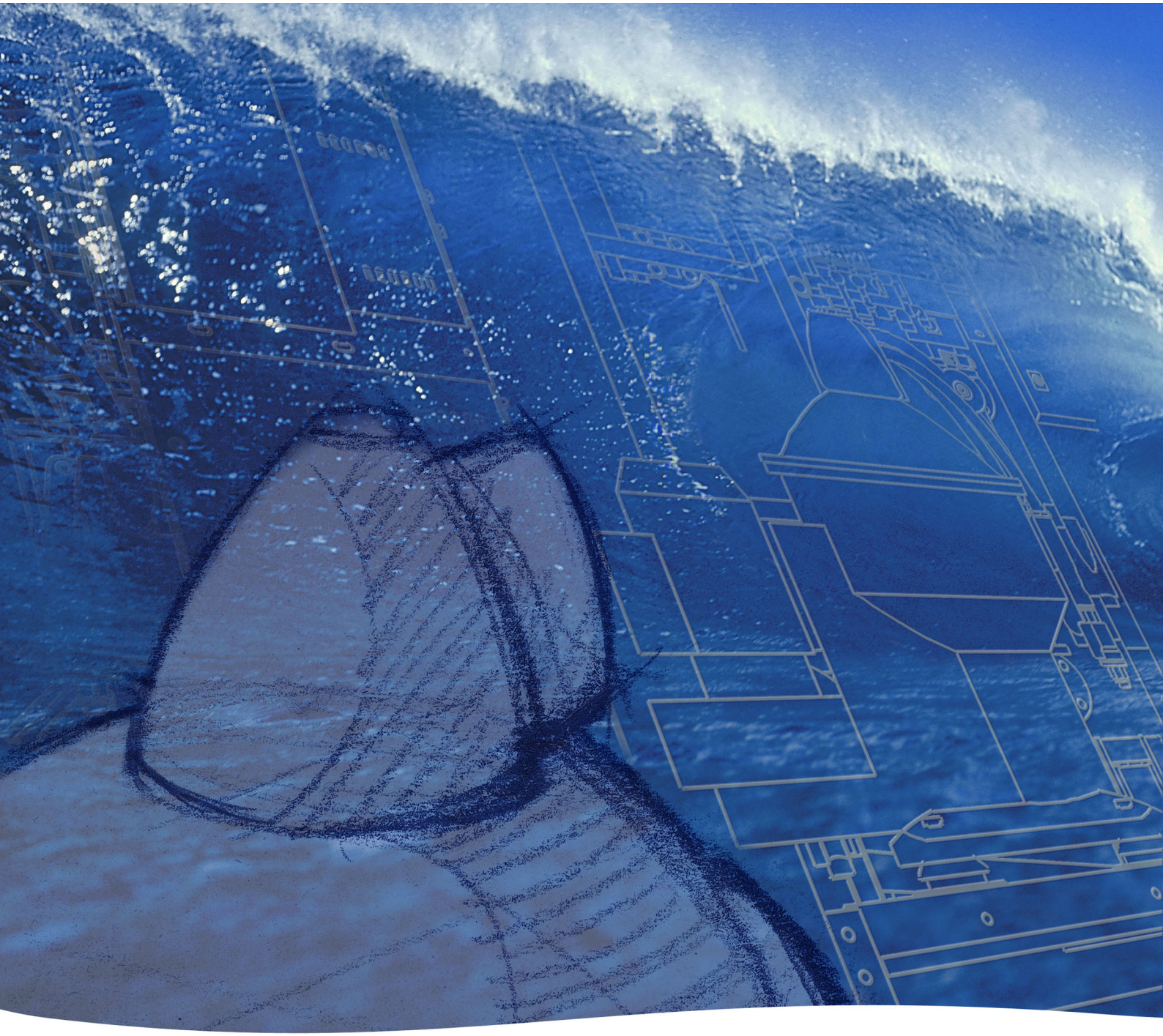

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The original instructions are in English

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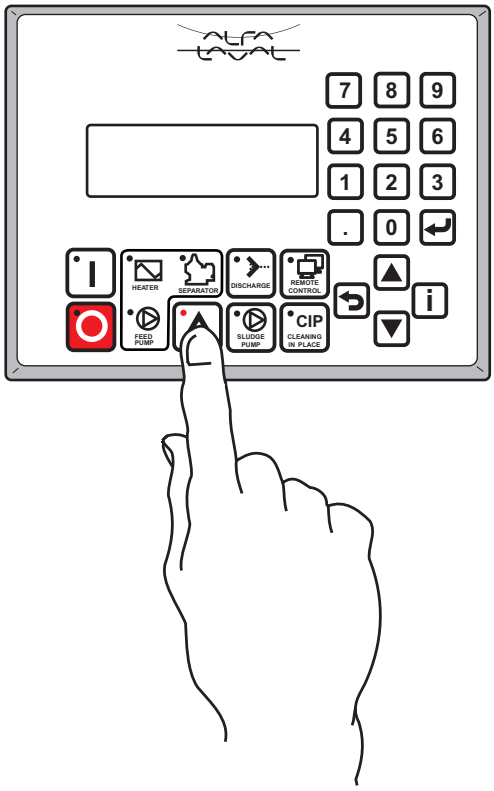
1 Alarms

1.1 Alarms List

To access the Alarms List press the ‘Alarm Button’.

NOTE

The latest 50 alarms are stored in the Alarm History List. See below.



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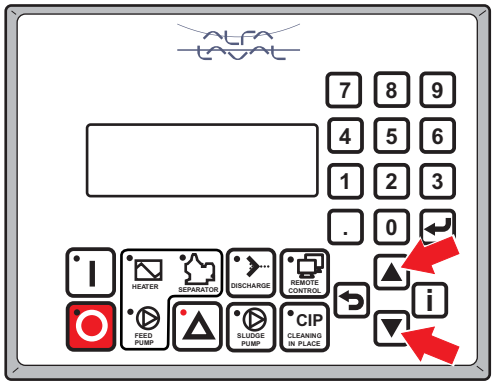
Press the arrow buttons to go up or down in the list.



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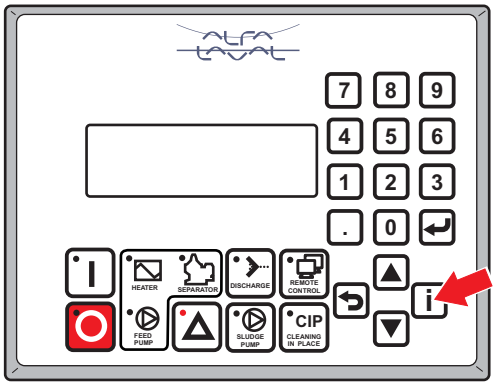
For each item in the list you can press the ‘Information’ button for help and information. Press the ‘Information’ button again to return to your previous position.

You can also acknowledge and/or reset this alarm.



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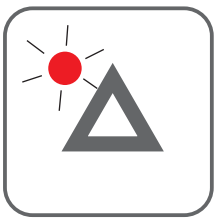
If the system has a fault, the alarm LED blinks. Press the ‘Alarm’ button once. The alarm shows on the display.
Press the ‘Alarm’ button again to acknowledge the alarm.
To go through the alarm list, press the ‘Arrow’ buttons.



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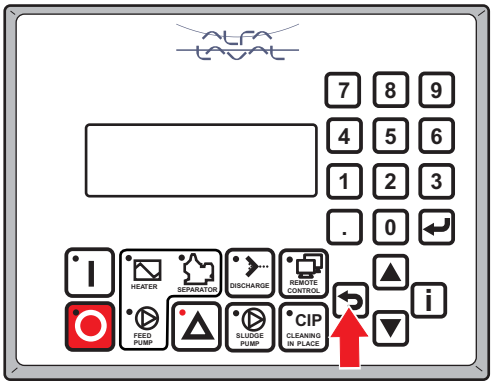
NOTE

After acknowledging an alarm, go through the alarm list to make sure that there are no other unacknowledged alarms!

If after all alarms have been acknowledged fault(s) remain in the system, the alarm LED stops blinking and remains on. An ‘A’ appears at the end of an alarm which has not been rectified.
The alarms disappear automatically when the fault is rectified.
When all the alarms have been rectified, the alarm LED goes out.
For safety reasons, certain alarms must not only be acknowledged, but also rectified before the system can continue in operation, for example alarm A122 ‘Butterfly valve in sludge outlet closed’.
Also for safety reasons, some alarms will set the system into recirculation or stop. These alarms must be rectified before the operator can put the system into operation.

Press the ‘Return’ button to leave the list.



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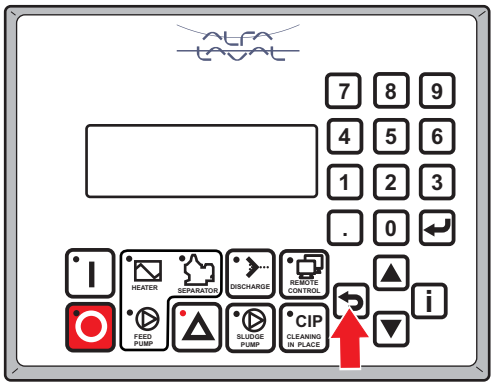
1.2 Alarm History List

To access the Alarm History List at any time during the operation process press the ‘Return button’ repeatedly until the Alarm History List is reached.

NOTE

Relevant parameters only are shown on the display



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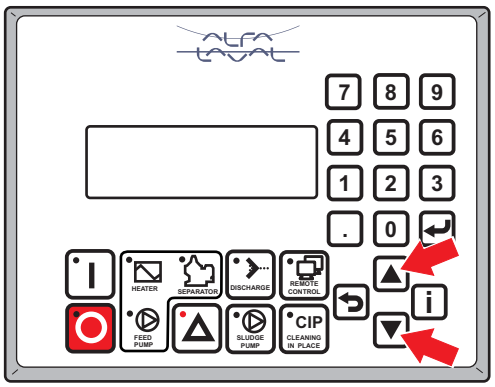
Press the arrow buttons to go up or down in the list. The list consists of the following:



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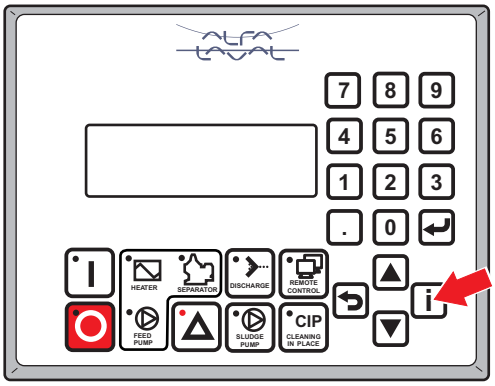
1. Parameter menu – List of all parameters. Password protected.
   To go directly to a parameter, enter the parameter number.
2. Time settings – For setting date, time, etc. Password protected.
   To go directly to a parameter, enter the parameter number.
3. Operation time – Different counters and timers can be read.
4. I/O Test – Here it is possible to activate all outputs and to read the status for all inputs, for testing purposes.
5. Alarm history – List of alarms which have been rectified. The latest alarm shows at the top of the list.
6. System info
7. IP settings
8. Password / Login
9. Set contrast

When the item, Alarm history, is blinking press the enter button. You get the history list of the last alarms. Use the Up/Down cursor to select an alarm.
Press the ‘Information’ button for information.
Press the ‘Information’ button again to return to your previous position.



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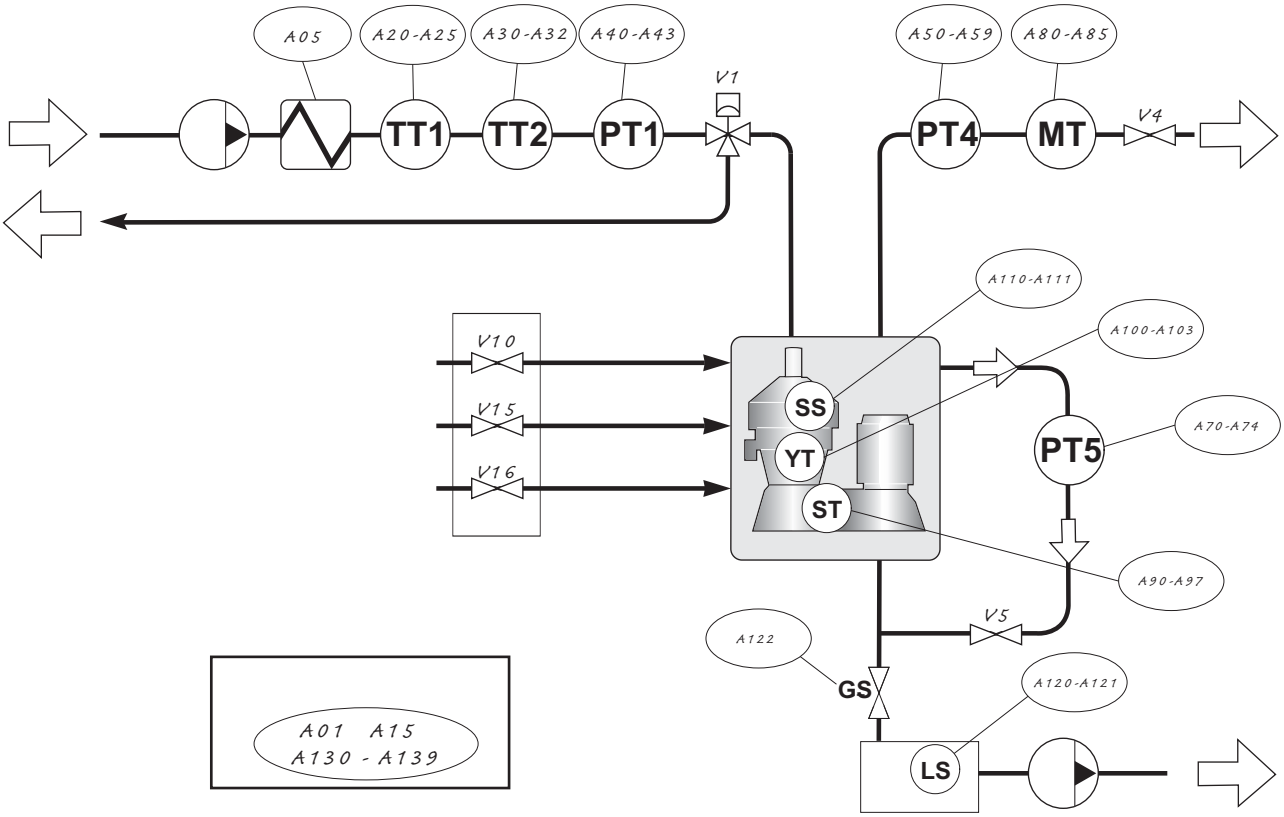
2 Display Alarms and Actions



Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
Feed pump (if P127 = yes)				
A01	Pump starter failure	Delayed by P168. Heater Off, Pump Off	Feedback signal from contactor K3 missing.	**Check the contactor function. Check input terminal in the PLC.**
Heater, electric (if P119 = electric)				
A05	Heater fault (electric)	Delayed 2 s. Heater Off		**Check the power supply to the heater.**
Separator (motor)				
A15	Separator starter failure	Delayed 2s.	Feedback signal from contactor K2 error.	**Check the contactor function. Check input terminal in the PLC**

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
Temperatur transmitter feed inlet TT1				

A20	Oil feed temperature high	Delayed by P150. Limit in P183. Heater Off	Steam supply valve faulty	**Investigate cause and remedy.**
			Faulty triac module(s) in the power unit or faulty controller in the control unit. (electric heater).	
			Broken wiring or defective heater resistance, or faulty controller in the control unit.	
A21	Oil feed temperature low	Delayed by P150. Limit in P184	Heater clogged	**Investigate cause and remedy.**
			Steam supply insufficient	**Investigate cause and remedy.**
			Steam trap faulty	**Investigate cause and remedy.**
			Steam supply valve insufficient	**Investigate cause and remedy.**
			Faulty fuses or burned contactors (electric heater)	**Check and renew broken fuses. Reset overcurrent protection (applicable for 8/7 - 24/22 kW power unit). Check wiring and contactor coils.**
			Broken wiring or defective heater resistance (electric heater)	**Check wiring and heater resistance of each block or heater element.**
A22	Temperature alarm sensor error (TT1)	Signal out of range, delayed by P150. Alarm switches heater off.	Short circuit / broken sensor or cable.	**Disconnect cable at sensor. Measure resistance between 1-3. Resistance shall be within 100-142 ohms = 0-110 C/32-230 F. Replace sensor if broken. If no spare sensor available, set parameter P146 = TT1 to be able to run the system.**
A23	Temperature alarm sensor disabled	Reminder only, if P146 = TT1 Possible to supervice the system via TT2.		

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
A24	Temperature increase too slow	Delayed by P169. Insufficient heating, temperature above low limit P184 expected within time in 169.	Insufficient heating during start.	**Check heater function.**
A25	Temperature not decreasing	Delayed by P173. (Stop sequence continues after alarm reset) Temp. down 5 degrees or below P184 Disabled if P173 = 0.	Heating on during stop sequence.	**Check heater function.**
			Recirculating oil not cooling.	**Reset alarm to continue.**
Temperatur transmitter heater control TT2				
A30	Temperature control sensor error (TT2)	Signal out of range, delayed by P150. Alarm switches heater off.	Short circuit / broken sensor or cable	**Disconnect cable at sensor. Measure resistance between 1-3. Resistance shall be within 100-142 ohms = 0-110 C/32-230 F. Replace sensor if broken. If no spare sensor available, set parameter P146 = TT2 to be able to run the system**
A31	Temperature control sensor disabled	Reminder only, if P146 = TT2 Possible to control the system via TT1		
A32	Difference TT1/TT2 too large	Delayed by P176. Alarm limit in P177. Blocked if A22, A23, A30, or A31		
Pressure transmitter feed inlet PT1				
A40	Feed pressure PT1 high	Delayed by P150. Limit in P157	Pipe restricted.	**Check recirculation for restriction.**
A41	Feed pressure PT1 low	Delayed by P150. Limit in P158. Not supervised during discharge sequence.	Pump not working	**Check pump.**
			Pressure in feed line too low	**Check feed line and flow regulation. Check heater for fouling.**
A42	Feed pressure sensor PT1 error	Delayed by P150. Signal out of range (4-20 mA).	Sensor or cable damaged.	**Check cable connections. Replace sensor. If no spare sensor available, set parameter P157 = 0.**
A43	PT1 disabled	Reminder only, if P157 = 0.		

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
Pressure transmitter oil outlet PT4				
A50	Oil backpressure PT4 high	Delayed by P150. Alarm limit in P153.	Increased throughput	**Check. Reduce backpressure.**
			Regulating valve too restricted	**Adjust valve.**
A51	Oil backpressure PT4 low	Delayed by P150. Alarm limit in P154.	Decreased throughput	**Check feed pump and adjust flow.**
			Regulating valve open too much	**Adjust back pressure valve**
			Change over valve V1 in recirculation position	**Check air pressure, solenoid valve SV1 and output from EPC 50.**
			Bowl opens unintentionally during operation because:	
			Strainer and piping in the operating water supply is clogged.	**Clean the strainer and check the whole system fore limestone deposits.**
			Too little or no water in the operating water system	**Measure the water flow in the three hoses from the water block and compare with correct values.**
			Hoses between the supply valves and separator are incorrectly fitted.	**Fit hoses correctly.**
			Nozzle in bowl body clogged	**Clean the nozzle.**
			Rectangular ring in discharge slide is defective.	**Renew the rectangular ring.**
			Valve plugs are defective.	**Renew all plugs.**
			Supply valves SV15 and SV 16 are leaking.	**Rectify the leak.**
A52	Oil pressure sensor PT4 error	Delayed by P150. Signal out of range (4-20mA).	Sensor or cable damaged.	**Check cable connections. Replace sensor. If no spare sensor available, set parameter P153 = 0.**
A53	PT4 disabled	Reminder only, if P153 = 0.		
A54	Oil pressure PT4 high at discharge	Delayed by P171. Alarm limit in P221.	No decrease in oil pressure at discharge	**Check function of change-over valve V1.**

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
A57	Oil leaking from bowl	This alarm is given under special conditions.	Bowl periphery sealing damaged	**Change seal ring in bowl hood. Check/change rubber rings and valve plugs.**
			Leakage somewhere in oil outlet	**Check for leakage.**
			Closing water leaking	**Check/change sealings and plugs.**
Water transducer MT60				
A80	Transducer value high	Delayed by P150. Limit in P189. Not supervised during discharge.	Extremely high water content.	**Check where the water is coming from.**
			Fouling in the MT60.	**Dismantle and clean with detergent.**
A81	Transducer value low	Delayed by P150. Limit in P162. Not supervised during discharge.	Too much air in oil outlet.	**Check oil backpressure.**
A82	MT60 in standby more than 24 hours	Reminder only, if P128 = standby more than 24h.		
A84	High water content	P187 alcap-triggered discharges before alarm. (P187 reset at alarm reset.)	Too much water in oil outlet.	**Investigate cause and remedy.**
			Much water in the feed.	**Check where the water is comimg from.**
			Paring tube not moving properly.	**Check that movement is not impeded by friction.**
A85	MT60 fault	Delayed by P150. Signal out of range (4-20mA).	Sensor or cable damaged.	**Check cable connections. Replace sensor. If no spare sensor available, set parameter P128 = standby.**
Pressure transmitter feed inlet PT1				
A97	Discharge feedback error	Stop alarm limit in P259. Test during P231 and P232.	The pressure PT1 has not decreased enough	

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
Vibration sensor separator (if P114 = yes)				
A101	High vibration shutdown	Delayed by 1s. No restart possible. Activate hold/reset output for 1s at alarm reset. (need to check)  **Disintegration hazard** **If excessive vibration occurs, stop separator and keep bowl filled with liquid during rundown. The cause of the vibration must be identified and corrected before the separator is restarted.**	Sludge remaining in part of the bowl	**Dismantle, clean and check the bowl before restart. See Service Manual.**  **Disintegration hazard** The separator bowl must be manually cleaned before starting up again.
			Bowl wrongly mounted	**Check assembly.**
			Disc stack compression incorrect	**Check assembly.**
			Bowl assembled with parts from other separators	**Check assembly.**
			Height position of paring disc is incorrect.	**Stop the separator, measure and if necessary adjust the height.**
			Bowl spindle bent.	**Renew the bowl spindle.**
			Bearing(s) damaged or worn.	**Renew all bearings.**
			The frame feet are worn out.	**Renew the frame feet.**
			Spindle top bearing spring broken.	**Renew all springs.**
A103	Vibration sensor disabled	Reminder only. If P132 = yes.		

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
Frame cover switch separator (if P115 = yes)				
A110	Frame cover open	Delay 1s. Alarm given if signal on A3:13 high	Separator not properly assembled	**Assemble the separator according to instructions.**
			Faulty frame cover switch	**Replace cover switch. If no spare switch available, set parameter P116 = yes to be able to run the system.**
A111	Frame cover switch disabled	Reminder only, if P116 = yes.		
Sludge handling				
A120	Sludge tank level high	Delay 60s Delayed by P159 Alarm delay and max pump running time 60s in all modes without feed flow, P159 in Separation. Note: This alarm function is not dependent on the setting of P118.	Pump has not drained the tank	**Check the pump function.**
A121	Level switch disabled	Reminder only, if P149 = yes.		
A122	Valve in sludge outlet closed Discharge not possible. Start not possible.	Delayed 5s	Valve closed.	**Open manual valve.**
A123	External alarm	Delay 2 s Via prog. input. If signal high.		
System				
A130	Emergency stop button pushed	Delay 1s. No restart.	Emergency stop button pushed	**Check for the cause. Reset pushbutton.**
A132	Power failure	Black-out has occurred during operation. Can be disabled with P152 = no.	Black-out has occurred during operation.	**Check plant conditions and restart.**
A133	Too long time in RECIRCULATION	Delayed by P178. System goes to STOP.	Time in RECIRCULATION expired.	
A136	Communication error	If P145 different from “disabled”.		
A137	Cabinet over temperature	Reminder only. CPU temperature > 85°C.		
A138	Too many start attempts		Contactor activated 5 times within last 60 minutes.	

Alarm code	Alarm text	Conditions / Consequences	Why?	What to do
A139	EPC60 internal failure	Delay 2s	IO-card status or PLC status not OK	**Check IO cards have no red LEDs**
			PLC has detected an IO-configuration that does not exist	**Check if IO-configuration is right or verify electrical drawings**
A140	Too long time out of operation		Alarm is created if the separator has been out of operation for one month or more. It is reset if the separator has been running for at least 5 hours.	**Pre-lubricate spindle bearings. After service always run the separator continuously for at least 5 hours to ensure proper lubrication.**
A145	Panel communication error	Delay 2s		**Check wiring.**

3 EPC 60 Control panel

Fault	Remedy
Black screen	Press and hold Enter button and adjust contrast with up and down button. This can be done regardless of which page is currently displayed.