

 <p>شرکت توسعه صنایع گوارا Lavan Industry Development Company</p>	<p><b>LIDCO, Pars SEE Zone, Assaluyeh, Integrated Methanol and Ammonia Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT</b></p>																				
	<p><b>Cause &amp; Effect Chart</b></p>																				
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**Airpack B.V. - Air Compressor –  
Integrated Methanol and Ammonia Plant  
17735-COM Cause & Effect Chart (K020)**

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Cause & Effect Chart

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**DOCUMENT TITLE: 17735-27**  
**Cause & Effect chart Compressor**

**CAUSE**  
 SIGNALS ARE INCLUDED IN P&ID DOCUMENT

Instrument Tag	Signal	Type	Description	Interlock
320HS-8203	EMERGENCY STOP	ESD	EMERGENCY SHUT DOWN LPS	IP-920
320SW-8206	EMERGENCY STOP	ESD	EMERGENCY SHUT DOWN DCS	IP-920
320HS-8201	START	BUTTON	START COMPRESSOR LPS	IP-922
320SW-8207	START	BUTTON	START COMPRESSOR DCS	IP-922
320HS-8202	STOP	BUTTON	STOP COMPRESSOR LPS	IP-923
320SW-8208	STOP	BUTTON	STOP COMPRESSOR DCS	IP-923
320PT-8201	TRANSMITTER	LL	COMPRESSOR INLET PRESSURE LOW LOW	IP-920
320PT-8202	TRANSMITTER	LL	2ND STAGE SUCTION PRESSURE LOW LOW	IP-920
320TT-8203	TRANSMITTER	HH	2ND STAGE SUCTION TEMPERATURE HIGH HIGH	IP-920
320TT-8205	TRANSMITTER	HH	COMPRESSOR OULTET TEMPERATURE HIGH HIGH	IP-920
320PT-8203	TRANSMITTER	HH	COMPRESSOR OULTET PRESSURE HIGH HIGH	IP-920
320PT-8204	TRANSMITTER	LL	OIL PRESSURE LOW LOW	IP-920
101-MBP-001	MOTOR	CONTROL	MOTOR RUNNING FEEDBACK TRIP	
320PT-8201	TRANSMITTER	H	COMPRESSOR INLET PRESSURE HIGH	
320TT-8201	TRANSMITTER	L	COMTRESSOR INLET TEMPERATURE LOW	
320TT-8201	TRANSMITTER	H	COMTRESSOR INLET TEMPERATURE HIGH	
320TT-8202	TRANSMITTER	L	1ST STAGE OUTLET TEMPERATURE LOW	
320TT-8202	TRANSMITTER	H	1ST STAGE OUTLET TEMPERATURE HIGH	
320PT-8202	TRANSMITTER	L	2ND STAGE SUCTION PRESSURE LOW	
320TT-8203	TRANSMITTER	H	2ND STAGE SUCTION TEMPERATURE HIGH	
320TT-8204	TRANSMITTER	L	2ND STAGE DISCHARGE TEMPERATURE LOW	
320TT-8204	TRANSMITTER	H	2ND STAGE DISCHARGE TEMPERATURE HIGH	
320TT-8205	TRANSMITTER	H	2ND STAGE DISCHARGE TEMPERATURE HIGH	
320PT-8203	TRANSMITTER	L	COMPRESSOR OUTLET PRESSURE LOW	
320PZLC	TRANSMITTER	READOUT	POSITIONER FEEDBACK 320PCV-8201	
320PAHH-8191	TRANSMITTER	HH	EXTERNAL SIGNAL PRESSURE VESSEL HIGH HIGH	IP-920
320PALL-8191	TRANSMITTER	LL	EXTERNAL PRESSURE VESSEL LOW LOW	IP-922
320PAH-8191	TRANSMITTER	H	EXTERNAL PRESSURE VESSEL HIGH	IP-923

EFFECT	Tag. Number	N/A	320MBS-8201	320MBW-8202	320PCV-8201	320UY-8204	320YL-8202	320XA-8203	320ML-8201					
	Component	on DCS	MOTOR START	MOTOR STOP	LOAD / UNLOAD VALVE <sup>note 2</sup>	EMERGENCY TRIP LIGHT	OPERATIONAL LIGHT <sup>note 3</sup>	FAULT LIGHT	RUNNING LIGHT					
CAUSE	Signal	Type	Description	Interlock	READOUT	START	STOP	BYPASS						
	x		SP	DE	x									
	x		SP	DE	x									
	x	ST		E				x					x	
	x	ST		E				x					x	
	x		SP	DE										
	x		SP	DE										
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x		SP	DE	x									
	x	ST		E				x					x	
	x		SP	DE										

**Legend:**  
 ST = Start  
 SP = Stop  
 X = Action  
 E = Energize  
 DE = De-energize

**NOTES:**  
 1. MOTOR FEEDBACK TRIP, 2 SECOND AFTER START SINGAL IS SEND AND MOTOR IS NOT SENDING FEEDBACK, THE PACKAGE IS TRIPPED  
 2. PCV-8201 ENERGIZE MEANS PCV IS REGULATING THE OUTLET PRESSURE AT THE SET POINT. DE-ENERGIZE IS FAIL POSITION (OPEN).  
 3. OPERATIONAL LIGHT IS OFF DURING ANY TRIP OR STOP BUTTON IS PRESSED.  
 4. TRANSMITTER IS EXTERNALLY PLACED ON THE PRESSURE VESSEL AFTER THE COMPRESSOR PACKAGE.

Refer to: 17735-03 P&ID, 17735-21 Control philosophy