



LIDCO, Pars SEE Zone, Assaluyeh,  
Integrated Methanol and Ammonia  
Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT



Instrument Data Sheets

Document No. 17735-12

Page

Project No.	Vendor Doc.	P.O. No.	Department	Document Type	Serial No	Revision	Page
N278	VD	6019	IN	DS	0013	02	Page 1 of 31

**Airpack B.V. - Air Compressor –  
Integrated Methanol and Ammonia Plant  
17735-COM Instrument Data Sheets (K020)**

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
02	15-12-2023	Issued for Approval	L.K.	S.K.	J.J.
01	09-11-2023	Issued for Approval	T.T.	S.K.	J.J.

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Instrument Data Sheets

Document No. 17735-12

Page



Project No.	Vendor Doc.	P.O. No.	Department	Document Type	Serial No	Revision	Page
N278	VD	6019	IN	DS	0013	02	Page 2 of 31

LIST OF REVISED PAGES

Rev. Page	01	02	03	04	05	Rev. Page	01	02	03	04	05	Rev. Page	01	02	03	04	05	Rev. Page	01	02	03	04	05
1	X	X				26	X	X				51						76					
2	X	X				27		X				52						77					
3	X	X				28		X				53						78					
4	X	X				29		X				54						79					
5	X	X				30		X				55						80					
6	X	X				31		X				56						81					
7	X	X				32						57						82					
8	X	X				33						58						83					
9	X	X				34						59						84					
10	X	X				35						60						85					
11	X	X				36						61						86					
12	X	X				37						62						87					
13	X	X				38						63						88					
14	X	X				39						64						89					
15	X	X				40						65						90					
16	X	X				41						66						91					
17	X	X				42						67						92					
18	X	X				43						68						ATTACHMENT					
19	X	X				44						69						1					
20	X	X				45						70						2					
21	X	X				46						71						3					
22	X	X				47						72						4					
23	X	X				48						73						5					
24	X	X				49						74						6					
25	X	X				50						75						7					



INDEX			
No.	Device	Tag Number	Page
1	Pressure Gauge	320-PG-8201	4
2	Pressure Gauge	320-PG-8202	5
3	Pressure Gauge	320-PG-8203	6
4	Pressure Gauge	320-PG-8204	7
5	Pressure Transmitter	320-PT-8201	8
6	Pressure Transmitter	320-PT-8202	9
7	Pressure Transmitter	320-PT-8203	10
8	Pressure Transmitter	320-PT-8204	11
9	Temperature Transmitter	320-TT-8201	12
10	Thermowell + Element	320-TW-8201	13
11	Temperature Transmitter	320-TT-8202	14
12	Thermowell + Element	320-TW-8202	15
13	Temperature Transmitter	320-TT-8203	16
14	Thermowell + Element	320-TW-8203	17
15	Temperature Transmitter	320-TT-8204	18
16	Thermowell + Element	320-TW-8204	19
17	Temperature Transmitter	320-TT-8205	20
18	Thermowell + Element	320-TW-8205	21
19	Temperature Gauge	320-TG-8201	22
20	Thermowell	320-TW-8201	23
21	Temperature Gauge	320-TG-8202	24
22	Thermowell	320-TW-8202	25
23	Temperature Gauge	320-TG-8203	26
24	Thermowell	320-TW-8203	27
25	Temperature Gauge	320-TG-8204	28
26	Thermowell	320-TG-8204	29
27	Temperature Gauge	320-TG-8205, 320-TG-8206	30
28	Thermowell	320-TW-8205, 320-TW-8206	31
29			
30			
31			
32			
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**Notes:**

				<b>INSTRUMENT DATASHEET</b> Index 	
02	LK	15-12-2023	For Approval		
01	TT	9-11-2023	For Approval		Sheet 3 of 31
Rev	By	Date	Description	Based on P&ID	Rev.01



GENERAL	1	Tag Number		320-PG-8201	
	2	Service		Air pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package inlet	
	5	Ingress Protection		IP65	
	6	Line number		1"-IA-320-01-D42-N	
	7	Area classification		Safe area	
PROCESS CONDITIONS	8				
	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	9,5 bar(g)	
	11	Temperature	Norm. Max.	46 °C	
	12	Design	Press. Temp.	12,5 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
GAUGE	16				
	17				
	18				
	19	Type		Bourdon tube	
	20	Range	Unit	0...16	bar(g)
	21	Mounting		Panel mounted, with front flange	
	22	Dial Size	Dial Color	100 mm	White surface, black numbers
	23	Case Material		SS316L	
	24	Ring Construction	Ring Material	Bayonet	SS316L
	25	Blow-Out Protection		Yes @ Back	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
30	ConnectionLocation		Back-bottom		
31	Movement Material		SS316L		
32	Nominal Accuracy		±1,0 % of span		
33	Gauge Filling		Glycerin		
34	Over Range Protection		1,3 x full scale value		
35					
36					
37					
OPTIONS	38	Snubber	Material	N/A	N/A
	39	Gauge Savers	Material	N/A	N/A
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Block valve (Hand ball valve)		Yes (3/4")	
	42	Tag plate		SS316, Plate with steel wire	
43					
44					
CERTIFICATES	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
	49				
50					
PURCHASE	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
	56				
57					

**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b> <b>Pressure Gauge</b> 			
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description	Sheet 4 of 31 Based on P&ID Rev.01			



GENERAL	1	Tag Number		320-PG-8202	
	2	Service		Air pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Suction 2nd stage	
	5	Ingress Protection		IP65	
	6	Line number		3/4"-IA-320-05-F42-H	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	22,1 bar(g)	
	11	Temperature	Norm. Max.	60 °C	
	12	Design	Press. Temp.	30,5 bar(g)	157 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
	17				
18					
GAUGE	19	Type		Bourdon tube	
	20	Range	Unit	0...40	bar(g)
	21	Mounting		Panel mounted, with front flange	
	22	Dial Size	Dial Color	100 mm	White surface, black numbers
	23	Case Material		SS316L	
	24	Ring Construction	Ring Material	Bayonet	SS316L
	25	Blow-Out Protection		Yes @ Back	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	ConnectionLocation		Back-bottom	
	31	Movement Material		SS316L	
	32	Nominal Accuracy		±1,0 % of span	
	33	Gauge Filling		Silicone	
	34	Over Range Protection		1,3 x full scale value	
	35				
36					
37					
OPTIONS	38	Snubber	Material	N/A	N/A
	39	Gauge Savers	Material	N/A	N/A
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Block valve (Hand ball valve)		Yes (3/4")	
	42	Tag plate		SS316, Plate with steel wire	
	43				
44					
CERTIFICATES	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
	49				
	50				
PURCHASE	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
	56				
	57				

**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b> <b>Pressure Gauge</b> 			
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description			Sheet 5 of 31 Based on P&ID Rev.01	



GENERAL	1	Tag Number		320-PG-8203	
	2	Service		Gas pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Outlet package	
	5	Ingress Protection		IP65	
	6	Line number		3/4"-IA-320-09-D42-N	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	30 bar(g)	
	11	Temperature	Norm. Max.	60 °C	
	12	Design	Press. Temp.	39 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
	17				
GAUGE	19	Type		Bourdon tube	
	20	Range	Unit	0...60	bar(g)
	21	Mounting		Panel mounted, with front flange	
	22	Dial Size	Dial Color	100 mm	White surface, black numbers
	23	Case Material		SS316L	
	24	Ring Construction	Ring Material	Bayonet	SS316L
	25	Blow-Out Protection		Yes @ Back	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	ConnectionLocation		Back-bottom	
	31	Movement Material		SS316L	
	32	Nominal Accuracy		±1,0 % of span	
	33	Gauge Filling		Silicone	
	34	Over Range Protection		1,3 x full scale value	
	35				
36					
37					
OPTIONS	38	Snubber	Material	N/A	N/A
	39	Gauge Savers	Material	N/A	N/A
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Block valve (Hand ball valve)		Yes (3/4")	
	42	Tag plate		SS316, Plate with steel wire	
	43				
CERTIFICATES	44				
	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
PURCHASE	49				
	50				
	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
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**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b> <b>Pressure Gauge</b> 			
02	LK	15-12-2023	For Approval			Sheet 6 of 31	
01	TT	9-11-2023	For Approval			Based on P&ID Rev.01	
Rev	By	Date	Description				



GENERAL	1	Tag Number		320-PG-8204	
	2	Service		Liquid pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Cooling water inlet	
	5	Ingress Protection		IP65	
	6	Line number		3/4"-CWS-320-20-B24-N	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Water	Liquid
	10	Pressure	Norm. Max.	4,5 bar(g)	
	11	Temperature	Norm. Max.	36 °C	
	12	Design	Press. Temp.	6 bar(g)	55 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
	17				
GAUGE	19	Type		Bourdon tube	
	20	Range	Unit	0...10	bar(g)
	21	Mounting		Panel mounted, with front flange	
	22	Dial Size	Dial Color	100 mm	White surface, black numbers
	23	Case Material		SS316L	
	24	Ring Construction	Ring Material	Bayonet	SS316L
	25	Blow-Out Protection		Yes @ Back	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	ConnectionLocation		Back-bottom	
	31	Movement Material		SS316L	
	32	Nominal Accuracy		±1,0 % of span	
	33	Gauge Filling		Glycerine	
	34	Over Range Protection		1,3 x full scale value	
	35				
	36				
37					
OPTIONS	38	Snubber	Material	N/A	N/A
	39	Gauge Savers	Material	N/A	N/A
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Block valve (Hand ball valve)		Yes (3/4")	
	42	Tag plate		SS316, Plate with steel wire	
	43				
CERTIFICATES	44				
	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
PURCHASE	49				
	50				
	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
56					
57					

**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b> <b>Pressure Gauge</b> 			
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description	Sheet 7 of 31 Based on P&ID Rev.01			



GENERAL	1	Tag Number		320-PT-8201	
	2	Service		Air pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package inlet	
	5	Ingress Protection		IP65	
	6	Line number		1"-IA-320-01-D42-N	
	7	Area classification		Safe area	
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	9,5 bar(g)	
	11	Temperature	Norm. Max.	46 °C	
	12	Design	Press. Temp.	12,5 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L	7,5 bar(g)	
	15		H HH	12 bar(g)	
	16				
	17				
18					
TRANSMITTER	19	Function		Field mounted	
	20	Element Type		Bourdon tube	
	21	Element Material		SS316L	
	22	Housing Material		SS316L	
	23	Power Supply		24 VDC, 2-wire, loop powered	
	24	Process Conn.	Electric Conn.	½" NPTM	ISO M20 x 1,5
	25	Accuracy		± 0.1% of span	
	26	Calibrated Range	Unit	0...16	bar(g)
	27	Adjustable Range	Unit	VTA	bar(g)
	28	Allow. Press.	Allow. Temp.		
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4 - 20 mA	
	31	Sensor Fill Fluid		Glycerine	
	32				
33					
34					
35					
36					
OPTIONS	37	Integral Meter	Scale	Yes, LCD	bar(g)
	38	Lightning And Surge Protection		N/A	
	39	Mounting facilities		Bracket	
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Housing ground connection		Yes, external (tightened with screws)	
	42	Cable Gland		Yes	
	43	Block valve (Hand ball valve)		Yes (3/4")	
	44	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
	49				
PURCHASE	50				
	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
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	56				
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**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b>		
				Pressure Transmitter		
						Sheet 8 of 31 Based on P&ID Rev.01
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320-PT-8202	
	2	Service		Air pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		2nd stage suction	
	5	Ingress Protection		IP65	
	6	Line number		3/4"-IA-320-05-F42-H	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	22,1 bar(g)	
	11	Temperature	Norm. Max.	60 °C	
	12	Design	Press. Temp.	30,5 bar(g)	157 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L	15,5 bar(g)	19 bar(g)
	15		H HH		
	16				
	17				
18					
TRANSMITTER	19	Function		Field mounted	
	20	Element Type		Bourdon tube	
	21	Element Material		SS316L	
	22	Housing Material		SS316L	
	23	Power Supply		24 VDC, 2-wire, loop powered	
	24	Process Conn.	Electric Conn.	½" NPTM	ISO M20 x 1,5
	25	Accuracy		± 0.1% of span	
	26	Calibrated Range	Unit	0...60	bar(g)
	27	Adjustable Range	Unit	VTA	bar(g)
	28	Allow. Press.	Allow. Temp.		
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4 - 20 mA	
	31	Sensor Fill Fluid		Silicone oil	
	32				
33					
34					
35					
36					
OPTIONS	37	Integral Meter	Scale	Yes, LCD	bar(g)
	38	Lightning And Surge Protection		N/A	
	39	Mounting facilities		Bracket	
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Housing ground connection		Yes, external (tightened with screws)	
	42	Cable Gland		Yes	
	43	Block valve (Hand ball valve)		Yes (3/4")	
	44	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
	49				
	50				
PURCHASE	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
	56				
	57				

**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b>		
				Pressure Transmitter		
02	LK	15-12-2023	For Approval			Sheet 9 of 31
01	TT	9-11-2023	For Approval			Based on P&ID Rev.01
Rev	By	Date	Description			



GENERAL	1	Tag Number		320-PT-8203	
	2	Service		Air pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package outlet	
	5	Ingress Protection		IP65	
	6	Line number		3/4"-IA-320-10-D42-N	
	7	Area classification		Safe area	
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	30 bar(g)	
	11	Temperature	Norm. Max.		60 °C
	12	Design	Press. Temp.	39 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL	L	25 bar(g)
	15		H	HH	34 bar(g)
	16				
	17				
18					
TRANSMITTER	19	Function		Field mounted	
	20	Element Type		Bourdon tube	
	21	Element Material		SS316L	
	22	Housing Material		SS316L	
	23	Power Supply		24 VDC, 2-wire, loop powered	
	24	Process Conn.	Electric Conn.	1/2" NPTM	ISO M20 x 1,5
	25	Accuracy		± 0.1% of span	
	26	Calibrated Range	Unit	0...60	bar(g)
	27	Adjustable Range	Unit	VTA	bar(g)
	28	Allow. Press.	Allow. Temp.		
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4 - 20 mA	
	31	Sensor Fill Fluid		Silicone oil	
	32				
33					
34					
35					
36					
OPTIONS	37	Integral Meter	Scale	Yes, LCD	bar(g)
	38	Lightning And Surge Protection		N/A	
	39	Mounting facilities		Bracket	
	40	Manifold (Block & Bleed)		Yes (2-way manifolds)	
	41	Housing ground connection		Yes, external (tightened with screws)	
	42	Cable Gland		Yes	
	43	Block valve (Hand ball valve)		Yes (3/4")	
	44	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
	49				
PURCHASE	50				
	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
	56				
57					

**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b>		
				Pressure Transmitter		
						Sheet 10 of 31
02	LK	15-12-2023	For Approval		Based on P&ID Rev.01	
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320-PT-8204	
	2	Service		Liquid Pressure	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Oil system	
	5	Ingress Protection		IP65	
	6	Line number		Oil pump	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Oil	liquid
	10	Pressure	Norm. Max.	1,7 bar(g)	2 bar(g)
	11	Temperature	Norm. Max.		70 °C
	12	Design	Press. Temp.	2,5 bar(g)	85 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L	1 bar(g)	
	15		H HH		
	16				
	17				
18					
TRANSMITTER	19	Function		Field mounted	
	20	Element Type		Bourdon tube	
	21	Element Material		SS316L	
	22	Housing Material		SS316L	
	23	Power Supply		24 VDC, 2-wire, loop powered	
	24	Process Conn.	Electric Conn.	½" NPTM	ISO M20 x 1,5
	25	Accuracy		± 0.1% of span	
	26	Calibrated Range	Unit	-1...	bar(g)
	27	Adjustable Range	Unit	VTA	bar(g)
	28	Allow. Press.	Allow. Temp.		
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4 - 20 mA	
	31	Sensor Fill Fluid		Glycerin	
	32				
	33				
	34				
35					
36					
OPTIONS	37	Integral Meter	Scale	Yes, LCD	bar(g)
	38	Lightning And Surge Protection		N/A	
	39	Mounting facilities		Bracket	
	40	Manifold (Block & Bleed)		Yes (2-way manifolds lockable)	
	41	Housing ground connection		Yes, external (tightened with screws)	
	42	Cable Gland		Yes	
	43	Block valve (Hand ball valve)		Yes (3/4")	
	44	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	45	Calibration certificate		Yes	
	46	3.1 Material certificate		Yes	
	47				
	48				
	49				
	50				
PURCHASE	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
	56				
	57				

**NOTES :**  
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				<b>INSTRUMENT DATASHEET</b>			
				Pressure Transmitter			
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description			Sheet	11 of 31
						Based on P&ID Rev.01	



GENERAL	1	Tag Number		320-TT-8201	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		1st stage suction	
	5	Ingress Protection		IP65	
	6	Line number		Dampener KV-020-001	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	9,5 bar(g)	
	11	Temperature	Norm. Max.	46 °C	
	12	Design	Press. Temp.	12,5 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L		40 °C
	15		H HH	50 °C	
16					
TRANSMITTER	17	Function		Field mounted	
	18	Transmitter Type		Temperature	
	19	RTD Types Supported		N/A	
	20	Thermocouples Types Supported		Yes, TC type 'K'	
	21	MV Type Supported		N/A	
	22	Cold Junction Compensation			
	23	Housing Material		SS 316	
	24	Power supply		24 VDC, 2 wire, loop powered	
	25	Electric Conn.		ISO M20 x 1,5	
	26	Accuracy		± 0.1% of span	
	27	Calibrated Range	Unit	0...100	°C
	28	Burn-out Protection/Loss of Input			
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4-20 mA	
	31	Adjustable Range		Yes	
	32				
	33				
34					
35					
36					
37					
38					
39					
40					
41					
OPTIONS	42	Integral Meter	Scale	Yes, LCD	°C
	43	Lightning And Surge Protection		N/A	
	44	Mounting facilities		Bracket	
	45	Housing ground connection		Yes, external (tightened with screws)	
	46	Cable Gland		Yes	
	47	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	48	Calibration certificate		Yes	
	49				
	50				
	51				
	52				
PURCHASE	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
	57				

**Notes:**

				<b>INSTRUMENT DATASHEET</b>			
				Temperature Transmitter			
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description			Sheet	12 of 31
						Based on P&ID Rev.01	



GENERAL	1	ThermowellTag Number		320-TW-8201	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Air inlet	
	5	Line number		Dampener KV-020-001	
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	9,5 bar(g)	
	11	Temperature	Norm. Max.	46 °C	
	12	Design	Press. Temp.	12,5 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2" flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
ELEMENT	30	ElementTag Number		320-TE-8201	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Type Of Element			
	34	Accuracy Class		Class 1	
	35	Outside Diameter Sensor		6 mm	
	36	Connection			
	37	Element Length		To fit in Thermowell	
	38	Type Of Cable		Armoured	
	39	Cable Length		5 m	
	40	Sheat Material		SS 316	
	41				
OPTIONS	46				
	47				
	48				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50	Calibration certificate		Yes	
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

**NOTES :**

				<b>INSTRUMENT DATASHEET</b>			
				Thermowell + Element			
02	LK	15-12-2023		For Approval		Sheet 13 of 31	
01	TT	9-11-2023		For Approval			
Rev	By	Date		Description			
						Based on P&ID	Rev.01



GENERAL	1	Tag Number		320-TT-8202	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		1st stage discharge	
	5	Ingress Protection		IP65	
	6	Line number		Dampener KV-020-002	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	23,3 bar(g)	
	11	Temperature	Norm. Max.	157 °C	
	12	Design	Press. Temp.	30,5 bar(g)	175 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L		145 °C
	15		H HH	165 °C	
16					
TRANSMITTER	17	Function		Field mounted	
	18	Transmitter Type		Temperature	
	19	RTD Types Supported		N/A	
	20	Thermocouples Types Supported		Yes, TC type 'K'	
	21	MV Type Supported		N/A	
	22	Cold Junction Compensation			
	23	Housing Material		SS 316	
	24	Power supply		24 VDC, 2 wire, loop powered	
	25	Electric Conn.		ISO M20 x 1,5	
	26	Accuracy		± 0.1% of span	
	27	Calibrated Range	Unit	0...250	°C
	28	Burn-out Protection/Loss of Input			
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4-20 mA	
	31	Adjustable Range		Yes	
	32				
	33				
	34				
	35				
	36				
37					
38					
39					
40					
41					
OPTIONS	42	Integral Meter	Scale	Yes, LCD	°C
	43	Lightning And Surge Protection		N/A	
	44	Mounting facilities		Bracket	
	45	Housing ground connection		Yes, external (tightened with screws)	
	46	Cable Gland		Yes	
	47	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	48	Calibration certificate		Yes	
	49				
	50				
	51				
	52				
PURCHASE	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
	57				

**Notes:**

				<b>INSTRUMENT DATASHEET</b>		 شرکت توسعه صنایع لوان Lavan Industry Development Company
				Temperature Transmitter		
02	LK	15-12-2023	For Approval			Sheet 14 of 31
01	TT	9-11-2023	For Approval			Based on P&ID Rev.01
Rev	By	Date	Description			



GENERAL	1	ThermowellTag Number		320-TW-8202	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		1st stage discharge	
	5	Line number		Dampener KV-020-002	
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	23,3 bar(g)	
	11	Temperature	Norm. Max.	157 °C	
	12	Design	Press. Temp.	30,5 bar(g)	175 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
	17				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2 flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
	27				
	28				
ELEMENT	30	ElementTag Number		320-TE-8202	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Type Of Element			
	34	Accuracy Class		Class 1	
	35	Outside Diameter Sensor		6 mm	
	36	Connection			
	37	Element Length		To fit in Thermowell	
	38	Type Of Cable		Armoured	
	39	Cable Length		5 m	
	40	Sheat Material		SS 316	
	41				
	42				
	43				
	44				
45					
OPTIONS	46				
	47				
	48				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50	Calibration certificate		Yes	
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> Thermowell + Element		 شرکت توسعه صنایع لوان Lavan Industry Development Company
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			Sheet
Rev	By	Date	Description	Based on P&ID Rev.01		



GENERAL	1	Tag Number		320-TT-8203	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		2nd stage suction	
	5	Ingress Protection		IP65	
	6	Line number		Dampener KV-020-003	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	22,1 bar(g)	
	11	Temperature	Norm. Max.	60 °C	
	12	Design	Press. Temp.	30,5 bar(g)	157 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L		
	15		H HH	65 °C	70 °C
16					
TRANSMITTER	17	Function		Field mounted	
	18	Transmitter Type		Temperature	
	19	RTD Types Supported		N/A	
	20	Thermocouples Types Supported		Yes, TC type 'K'	
	21	MV Type Supported		N/A	
	22	Cold Junction Compensation			
	23	Housing Material		SS 316	
	24	Power supply		24 VDC, 2 wire, loop powered	
	25	Electric Conn.		ISO M20 x 1,5	
	26	Accuracy		± 0.1% of span	
	27	Calibrated Range	Unit	0...250	°C
	28	Burn-out Protection/Loss of Input			
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4-20 mA	
	31	Adjustable Range		Yes	
	32				
	33				
34					
35					
36					
37					
38					
39					
40					
41					
OPTIONS	42	Integral Meter	Scale	Yes, LCD	°C
	43	Lightning And Surge Protection		N/A	
	44	Mounting facilities		Bracket	
	45	Housing ground connection		Yes, external (tightened with screws)	
	46	Cable Gland		Yes	
	47	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	48	Calibration certificate		Yes	
	49				
	50				
	51				
	52				
PURCHASE	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
	57				

**Notes:**

				<b>INSTRUMENT DATASHEET</b>		 شرکت توسعه صنایع لوات Lavan Industry Development Company
				Temperature Transmitter		
02	LK	15-12-2023	For Approval			Sheet 16 of 31
01	TT	9-11-2023	For Approval			Based on P&ID Rev.01
Rev	By	Date	Description			



GENERAL	1	ThermowellTag Number		320-TW-8203	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		2nd stage suction	
	5	Line number		Dampener KV-020-003	
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	22,1 bar(g)	
	11	Temperature	Norm. Max.	60 °C	
	12	Design	Press. Temp.	30,5 bar(g)	157 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2 flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
ELEMENT	30	ElementTag Number		320-TE-8203	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Type Of Element			
	34	Accuracy Class		Class 1	
	35	Outside Diameter Sensor		6 mm	
	36	Connection			
	37	Element Length		To fit in Thermowell	
	38	Type Of Cable		Armoured	
	39	Cable Length		5m	
	40	Sheat Material		SS 316	
	OPTIONS	46			
47					
48					
CERTIFICATES	49	3.1 Material certificate		Yes	
	50	Calibration certificate		Yes	
	51				
CALCULATIONS	52				
	53	Wake frequency calculation		Yes	
	54				
	55				
56					
57					

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> Thermowell + Element			
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval			Sheet	17 of 31
Rev	By	Date	Description			Based on P&ID Rev.01	



GENERAL	1	Tag Number		320-TT-8204	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Second stage discharge	
	5	Ingress Protection		IP65	
	6	Line number		Dampener KV-020-004	
	7	Area classification		Safe area	
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	30 bar(g)	
	11	Temperature	Norm. Max.	116 °C	
	12	Design	Press. Temp.	39 bar(g)	135 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L		105 °C
	15		H HH	125 °C	
16					
TRANSMITTER	17	Function		Field mounted	
	18	Transmitter Type		Temperature	
	19	RTD Types Supported		N/A	
	20	Thermocouples Types Supported		Yes, TC type 'K'	
	21	MV Type Supported		N/A	
	22	Cold Junction Compensation			
	23	Housing Material		SS 316	
	24	Power supply		24 VDC, 2 wire, loop powered	
	25	Electric Conn.		ISO M20 x 1,5	
	26	Accuracy		± 0.1% of span	
	27	Calibrated Range	Unit	0...160	°C
	28	Burn-out Protection/Loss of Input			
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4-20 mA	
	31	Adjustable Range		Yes	
	32				
	33				
	34				
	35				
	36				
37					
38					
39					
40					
41					
OPTIONS	42	Integral Meter	Scale	Yes, LCD	°C
	43	Lightning And Surge Protection		N/A	
	44	Mounting facilities		Bracket	
	45	Housing ground connection		Yes, external (tightened with screws)	
	46	Cable Gland		Yes	
	47	Tag plate		SS316, Plate with steel wire	
CERTIFICATES	48	Calibration certificate		Yes	
	49				
	50				
	51				
	52				
PURCHASE	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
	57				

**Notes:**

				<b>INSTRUMENT DATASHEET</b>		 شرکت توسعه صنایع لوات <b>Lavan</b> Industry Development Company
				Temperature Transmitter		
02	LK	15-12-2023	For Approval			Sheet 18 of 31
01	TT	9-11-2023	For Approval			Based on P&ID Rev.01
Rev	By	Date	Description			


GENERAL	1	ThermowellTag Number		320-TW-8204	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Second stage discharge	
	5	Line number		Dampener KV-020-004	
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	30 bar(g)	
	11	Temperature	Norm. Max.	116 °C	
	12	Design	Press. Temp.	39 bar(g)	135 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2 flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
ELEMENT	30	ElementTag Number		320-TE-8204	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Type Of Element			
	34	Accuracy Class		Class 1	
	35	Outside Diameter Sensor		6 mm	
	36	Connection			
	37	Element Length		To fit in Thermowell	
	38	Type Of Cable		Armoured	
	39	Cable Length		5m	
	40	Sheat Material		SS 316	
	41				
OPTIONS	46				
	47				
	48				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50	Calibration certificate		Yes	
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

**NOTES :**

				<b>INSTRUMENT DATASHEET</b>		
				Thermowell + Element		
						Sheet 19 of 31 Based on P&ID Rev.01
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320-TT-8205	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package outlet	
	5	Ingress Protection		IP65	
	6	Line number		2"-IA-320-08-D42-N	
	7	Area classification		Safe area	
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	30 bar(g)	
	11	Temperature	Norm. Max.	60°C	
	12	Design	Press. Temp.	39 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L		
15	H HH		65	70	
TRANSMITTER	17	Function		Field mounted	
	18	Transmitter Type		Temperature	
	19	RTD Types Supported		N/A	
	20	Thermocouples Types Supported		Yes, TC type 'K'	
	21	MV Type Supported		N/A	
	22	Cold Junction Compensation			
	23	Housing Material		SS 316	
	24	Power supply		24 VDC, 2 wire, loop powered	
	25	Electric Conn.		ISO M20 x 1,5	
	26	Accuracy		± 0.1% of span	
	27	Calibrated Range	Unit	0...160	°C
	28	Burn-out Protection/Loss of Input			
	29	Communication Protocol		Smart , HART	
	30	Output Signal		4-20 mA	
	31	Adjustable Range		Yes	
	32				
	33				
34					
35					
36					
37					
38					
39					
40					
41					
OPTIONS	42	Integral Meter	Scale	Yes, LCD	°C
	43	Lightning And Surge Protection		N/A	
	44	Mounting facilities		Bracket	
	45	Housing ground connection		Yes, external (tightened with screws)	
	46	Cable Gland		Yes	
47	Tag plate		SS316, Plate with steel wire		
CERTIFICATES	48	Calibration certificate		Yes	
	49				
	50				
	51				
PURCHASE	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
57					

**Notes:**

				<b>INSTRUMENT DATASHEET</b> Temperature Transmitter		 شرکت توسعه صنایع لوان <b>Lavan</b> Industry Development Company
02	LK	15-12-2023	For Approval	Sheet 20 of 31 Based on P&ID Rev.01		
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	ThermowellTag Number		320-TW-8205	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package outlet	
	5	Line number		2"-IA-320-08-D42-N	
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapour
	10	Pressure	Norm. Max.	30 bar(g)	
	11	Temperature	Norm. Max.	60 °C	
	12	Design	Press. Temp.	39 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2 flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
ELEMENT	30	ElementTag Number		320TE-8205	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Type Of Element			
	34	Accuracy Class		Class 1	
	35	Outside Diameter Sensor		6 mm	
	36	Connection			
	37	Element Length		To fit in Thermowell	
	38	Type Of Cable		Armoured	
	39	Cable Length		5m	
	40	Sheat Material		SS 316	
	41				
OPTIONS	46				
	47				
	48				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50	Calibration certificate		Yes	
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> Thermowell + Element			
							
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description			Sheet 21 of 31 Based on P&ID Rev.01	



GENERAL	1	Tag Number		320-TG-8201		
	2	Service		Air temperature		
	3	P&ID No.		N278-VD-6019-PR-PID-0002		
	4	Location		1st stage suction		
	5	Ingress Protection		IP65		
	6	Line number		Dampener KV-020-001		
	7	Area classification		Safe area		
	8					
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor	
	10	Pressure	Norm. Max.	9,5 bar(g)		
	11	Temperature	Norm. Max.	46 °C		
	12	Design	Press. Temp.	12,5 bar(g)	75 °C	
	13	Ambient Temp.	Min. Max.	0 °C	49 °C	
	14					
	15					
	16					
	17					
	18					
GAUGE	19	Type		Gas filled		
	20	Range	Unit	0...100	°C	
	21	Dial Size	Dial Color	100 mm	White surface, black numbers	
	22	Case Material		SS316L		
	23	Stem Material		SS316L		
	24	Mounting		Locally mounted		
	25	Lens Material		Shatterproof laminated safety glass		
	26	Stem length	Stem Diameter	To fit in thermowell	6 mm	
	27	External calibrator		No		
	28	Nominal Accuracy		±1.0% of full scale		
	29	Connection		3/4" NPT, to fit in thermowell		
	30	Liquid Filling		Glycerin		
	31	Tag plate		SS316, Plate with steel wire		
	32					
	33	FILLED SYSTEM	Compensation		-	
	34		Capillary Length		N/A	
	35		Capillary Material		N/A	
	36		Armor Material		N/A	
	37					
	38					
	39					
	40					
	41					
42						
43						
44						
CERTIFICATES	45	Calibration certificate		Yes		
	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
	50					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
	55					
	56					
	57					

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> <b>Temperature Gauge</b>		شرکت توسعه صنایع لایان <b>Lavan Industry Development Company</b> 	
02	LK	15-12-2023	For Approval			Sheet 22 of 31 Based on P&ID Rev.01	
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description				



GENERAL	1	Thermowell Tag Number			320-TW-8201	
	2	Service			Air temperature	
	3	P&ID No.			N278-VD-6019-PR-PID-0002	
	4	Location			1st stage suction	
	5	Line number			Dampener KV-020-001	
	6	Area classification			Safe area	
	7					
	8					
PROCESS CONDITIONS	9	Fluid	State		Air	Vapor
	10	Pressure	Norm.	Max.	9.5 bar(g)	
	11	Temperature	Norm.	Max.	46 °C	
	12	Design	Press.	Temp.	12.5 bar(g)	75 °C
	13	Ambient Temp.	Min.	Max.	0 °C	49 °C
	14					
	15					
	16					
THERMOWELL	19	Material			SS 316	
	20	Construction			Solid bar stock	
	21	Process Connection			1 1/2" flange	
	22	Instrument Connection			3/4" NPT	
	23	Stem Diameter			VTA	
	24	Bore Diameter			VTA	
	25	U-length			TBD	
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
39						
40						
41						
42						
43						
44						
45						
OPTIONS	46					
	47					
	48					
CERTIFICATES	49	3.1 Material certificate			Yes	
	50					
	51					
	52					
CALCULATIONS	53	Wake frequency calculation			Yes	
	54					
	55					
	56					
	57					

**NOTES :**

				<b>INSTRUMENT DATASHEET</b>		شرکت توسعه صنایع لوان <b>Lavan</b> Industry Development Company
				Thermowell		
						 Sheet 23 of 31
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description	Based on P&ID Rev.01		



GENERAL	1	Tag Number		320-TG-8202		
	2	Service		Air temperature		
	3	P&ID No.		N278-VD-6019-PR-PID-0002		
	4	Location		1st stage discharge		
	5	Ingress Protection		IP65		
	6	Line number		Dampener KV-020-002		
	7	Area classification		Safe area		
	8					
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor	
	10	Pressure	Norm. Max.	23,3 bar(g)		
	11	Temperature	Norm. Max.	157 °C		
	12	Design	Press. Temp.	30,5 bar(g)	175 °C	
	13	Ambient Temp.	Min. Max.	0 °C	49 °C	
	14					
	15					
	16					
	17					
	18					
GAUGE	19	Type		Gas filled		
	20	Range	Unit	0...300	°C	
	21	Dial Size	Dial Color	100 mm	White surface, black numbers	
	22	Case Material		SS316L		
	23	Stem Material		SS316L		
	24	Mounting		Locally mounted		
	25	Lens Material		Shatterproof laminated safety glass		
	26	Stem length	Stem Diameter	To fit in thermowell	6 mm	
	27	External Calibrator		No		
	28	Nominal Accuracy		±1.0% of full scale		
	29	Connection		3/4" NPT, to fit in thermowell		
	30	Liquid Filling		Glycerin		
	31	Tag plate		SS316, Plate with steel wire		
	32					
	33	FILLED SYSTEM	Compensation		-	
	34		Capillary Length		N/A	
	35		Capillary Material		N/A	
	36		Armor Material		N/A	
	37					
	38					
	39					
	40					
	41					
	42					
43						
44						
CERTIFICATES	45	Calibration certificate		Yes		
	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
	50					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
	55					
	56					
	57					

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> <b>Temperature Gauge</b>		شرکت توسعه صنایع لایان <b>Lavan Industry Development Company</b> 	
02	LK	15-12-2023	For Approval			Sheet 24 of 31 Based on P&ID Rev.01	
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description				


GENERAL	1	Thermowell Tag Number			320-TW-8202	
	2	Service			Air temperature	
	3	P&ID No.			N278-VD-6019-PR-PID-0002	
	4	Location			1st stage discharge	
	5	Line number			Dampener KV-020-002	
	6	Area classification			Safe area	
	7					
	8					
PROCESS CONDITIONS	9	Fluid	State		Air	Vapor
	10	Pressure	Norm.	Max.	23,3 bar(g)	
	11	Temperature	Norm.	Max.	157 °C	
	12	Design	Press.	Temp.	30,5 bar(g)	175 °C
	13	Ambient Temp.	Min.	Max.	0 °C	49 °C
	14					
	15					
	16					
THERMOWELL	19	Material			SS 316	
	20	Construction			Solid bar stock	
	21	Process Connection			1 1/2" flange	
	22	Instrument Connection			3/4" NPT	
	23	Stem Diameter			VTA	
	24	Bore Diameter			VTA	
	25	U-length			TBD	
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
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41						
42						
43						
44						
45						
OPTIONS	46					
	47					
	48					
CERTIFICATES	49	3.1 Material certificate			Yes	
	50					
	51					
	52					
CALCULATIONS	53	Wake frequency calculation			Yes	
	54					
	55					
	56					
	57					

**NOTES :**

				INSTRUMENT DATASHEET		شرکت توسعه کنسولتینگ لایان <b>Lavan</b> Industry Development Company	
				Thermowell			
							
02	LK	15-12-2023		For Approval			
01	TT	9-11-2023		For Approval			
Rev	By	Date		Description		Sheet	25 of 31
						Based on P&ID Rev.01	



GENERAL	1	Tag Number		320-TG-8203		
	2	Service		Air temperature		
	3	P&ID No.		N278-VD-6019-PR-PID-0002		
	4	Location		2nd stage discharge		
	5	Ingress Protection		IP65		
	6	Line number		Dampener KV-020-004		
	7	Area classification		Safe area		
	8					
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor	
	10	Pressure	Norm. Max.	30,0 bar(g)		
	11	Temperature	Norm. Max.	116 °C		
	12	Design	Press. Temp.	39,0 bar(g)	135 °C	
	13	Ambient Temp.	Min. Max.	0 °C	49 °C	
	14					
	15					
	16					
GAUGE	19	Type		Gas filled		
	20	Range	Unit	0...200	°C	
	21	Dial Size	Dial Color	100 mm	White surface, black numbers	
	22	Case Material		SS316L		
	23	Stem Material		SS316L		
	24	Mounting		Locally mounted		
	25	Lens Material		Shatterproof laminated safety glass		
	26	Stem length	Stem Diameter	To fit in thermowell	6 mm	
	27	External Calibrator		No		
	28	Nominal Accuracy		±1.0% of full scale		
	29	Connection		3/4" NPT, to fit in thermowell		
	30	Liquid Filling		Glycerin		
	31	Tag plate		SS316, Plate with steel wire		
	32					
	33	FILLED SYSTEM	Compensation		-	
	34		Capillary Length		N/A	
	35		Capillary Material		N/A	
	36		Armor Material		N/A	
	37					
	38					
39						
40						
41						
42						
43						
44						
CERTIFICATES	45	Calibration certificate		Yes		
	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
	50					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
	55					
	56					
	57					

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> <b>Temperature Gauge</b>		 شریکت توسعه کیفیت لوان Lavan Industry Development Company
02	LK	15-12-2023	For Approval	Sheet 26 of 31 Based on P&ID Rev.01		
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Thermowell Tag Number		320-TW-8203	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		2nd stage discharge	
	5	Line number		Dampener KV-020-004	
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor
	10	Pressure	Norm. Max.	23,3 bar(g)	
	11	Temperature	Norm. Max.	157 °C	
	12	Design	Press. Temp.	29 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2" flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
38					
39					
40					
41					
42					
43					
44					
45					
OPTIONS	46				
	47				
	48				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50				
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

**NOTES :**

				<b>INSTRUMENT DATASHEET</b> Thermowell		 شركة توسعه صنایع لاهوت <b>Lavan</b> Industry Development Company
						
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description	Sheet 27 of 31 Based on P&ID Rev.01		



GENERAL	1	Tag Number		320-TG-8204		
	2	Service		Air temperature		
	3	P&ID No.		N278-VD-6019-PR-PID-0002		
	4	Location		Package outlet		
	5	Ingress Protection		IP65		
	6	Line number		2"-IA-320-08-D42-N		
	7	Area classification		Safe area		
	8					
PROCESS CONDITIONS	9	Fluid	State	Air	Vapor	
	10	Pressure	Norm. Max.	30 bar(g)		
	11	Temperature	Norm. Max.	60 °C		
	12	Design	Press. Temp.	39 bar(g)	75 °C	
	13	Ambient Temp.	Min. Max.	0 °C	49 °C	
	14					
	15					
	16					
	17					
GAUGE	19	Type		Gas filled		
	20	Range	Unit	0...200	°C	
	21	Dial Size	Dial Color	100 mm	White surface, black numbers	
	22	Case Material		SS316L		
	23	Stem Material		SS316L		
	24	Mounting		Panel mounted, with front flange		
	25	Lens Material		Shatterproof laminated safety glass		
	26	Stem length	Stem Diameter	To fit in thermowell	6 mm	
	27	External Calibrator		No		
	28	Nominal Accuracy		±1.0% of full scale		
	29	Connection Size		3/4" NPT, to fit in thermowell		
	30	Gauge Filling		Glycerin		
	31	Tag plate		SS316, Plate with steel wire		
	32					
	33	FILLED SYSTEM	Compensation		-	
	34		Capillary Length		N/A	
	35		Capillary Material		N/A	
	36		Armor Material		N/A	
	37					
	38					
	39					
	40					
	41					
42						
43						
44						
CERTIFICATES	45	Calibration certificate		Yes		
	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
	50					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
	55					
	56					
	57					

**NOTES :**

				INSTRUMENT DATASHEET		 شریکت توسعه صنعت لوات Lavan Industry Development Company
				Temperature Gauge		
02	LK	15-12-2023	For Approval			 Sheet 28 of 31 Based on P&ID Rev.01
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Thermowell Tag Number			320-TG-8204	
	2	Service			Air temperature	
	3	P&ID No.			N278-VD-6019-PR-PID-0002	
	4	Location			Package outlet	
	5	Line number			2"-IA-320-08-D42-N	
	6	Area classification			Safe area	
	7					
	8					
PROCESS CONDITIONS	9	Fluid	State		Air	Vapor
	10	Pressure	Norm.	Max.	22,1 bar(g)	
	11	Temperature	Norm.	Max.	116 °C	
	12	Design	Press.	Temp.	39 bar(g)	135 °C
	13	Ambient Temp.	Min.	Max.	0 °C	49 °C
	14					
	15					
	16					
THERMOWELL	19	Material			SS 316	
	20	Construction			Solid bar stock	
	21	Process Connection			1 1/2" flange	
	22	Instrument Connection			3/4" NPT	
	23	Stem Diameter			VTA	
	24	Bore Diameter			VTA	
	25	U-length			TBD	
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
37						
38						
39						
40						
41						
42						
43						
44						
45						
OPTIONS	46					
	47					
	48					
CERTIFICATES	49	3.1 Material certificate			Yes	
	50					
	51					
	52					
CALCULATIONS	53	Wake frequency calculation			Yes	
	54					
	55					
	56					
	57					

**NOTES :**

				INSTRUMENT DATASHEET		شرکت توسعه صنایع لوانت <b>Lavan Industry Development Company</b> 
				Thermowell		
						Sheet 29 of 31
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			Based on P&ID Rev.01
Rev	By	Date	Description			



GENERAL	1	Tag Number		320-TG-8205, 320-TG-8206		
	2	Service		Water temperature		
	3	P&ID No.		N278-VD-6019-PR-PID-0002		
	4	Location		Cooling water outlet		
	5	Ingress Protection		IP65		
	6	Line number	2"-CWR-320-24-D24-N		2"-CWR-320-22-D24-N	
	7	Area classification		Safe area		
	8					
PROCESS CONDITIONS	9	Fluid	State		Water	Liquid
	10	Pressure	Norm.	Max.	2,5 bar(g)	4,5 bar(g)
	11	Temperature	Norm.	Max.	36 °C	46 °C
	12	Design	Press.	Temp.	7 bar(g)	65 °C
	13	Ambient Temp.	Min.	Max.	0 °C	49 °C
	14					
	15					
	16					
	17					
	18					
GAUGE	19	Type		Gas filled		
	20	Range	Unit	0...100	°C	
	21	Dial Size	Dial Color	100 mm	White surface, black numbers	
	22	Case Material		SS316L		
	23	Stem Material		SS316L		
	24	Mounting		Panel mounted, with front flange		
	25	Lens Material		Shatterproof laminated safety glass		
	26	Stem length	Stem Diameter	To fit in thermowell	6 mm	
	27	External Calibrator		No		
	28	Nominal Accuracy		±1.0% of full scale		
	29	Connection Size		3/4" NPT, to fit in thermowell		
	30	Gauge Filling		Glycerin		
	31	Tag plate		SS316, Plate with steel wire		
	32					
	33	FILLED SYSTEM	Compensation		-	
	34		Capillary Length		N/A	
	35		Capillary Material		N/A	
	36		Armor Material		N/A	
	37					
	38					
	39					
	40					
	41					
	42					
43						
44						
CERTIFICATES	45	Calibration certificate		Yes		
	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
	50					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
	55					
	56					
	57					

**NOTES :**

				INSTRUMENT DATASHEET		شرکت توسعه صنایع لوان Lavan Industry Development Company	
				Temperature Gauge		 	
02	LK	15-12-2023	For Approval				
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description		Sheet 30 of 31 Based on P&ID Rev.01		

GENERAL	1	Thermowell Tag Number		320-TW-8205, 320-TW-8206	
	2	Service		Water temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Cooling water outlet	
	5	Line number		2"-CWR-320-24-D24-N	2"-CWR-320-22-D24-N
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Water	Liquid
	10	Pressure	Norm. Max.	2,5 bar(g)	4,5 bar(g)
	11	Temperature	Norm. Max.	36 °C	46 °C
	12	Design	Press. Temp.	6 bar(g)	65 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
THERMOWELL	19	Material		SS 316	
	20	Construction		Solid bar stock	
	21	Process Connection		1 1/2" flange	
	22	Instrument Connection		3/4" NPT	
	23	Stem Diameter		VTA	
	24	Bore Diameter		VTA	
	25	U-length		TBD	
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
38					
39					
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42					
43					
44					
45					
OPTIONS	46				
	47				
	48				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50				
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

**NOTES :**

				INSTRUMENT DATASHEET		
				Thermowell		
						Sheet 31 of 31 Based on P&ID Rev.01
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			