

 <p>شرکت توسعه صنایع لوان Lavan Industry Development Company</p>	<p>LIDCO, Pars SEE Zone, Assaluyeh, Integrated Methanol and Ammonia Plant 3000 MTPD MeOH / 900 MTPD NH3 PROJECT</p>						
	<p>Instrument Data Sheets</p>						
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**Airpack B.V. - Air Compressor –
Integrated Methanol and Ammonia Plant
17735-COM Instrument Data Sheets (K020)**

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Instrument Data Sheets

Document No. 17735-12

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GENERAL	1	Tag Number		320PG-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	
	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		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, including baffle wall	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	Connection Location		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				
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NOTES :



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

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لوان Lavan Industry Development Company
				Pressure Gauge		
03	LK	11-3-2024	For Approval	 Airpack Netherlands		
02	LK	15-12-2023	For Approval			
01	IT	9-11-2023	For Approval			
Rev	By	Date	Description	Sheet 4 of 31 Based on P&ID Rev.06		

GENERAL	1	Tag Number		320PG-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-D42-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.	39 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, including baffle wall	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	Connection Location		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

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لوات Lavan Industry Development Company
				Pressure Gauge		
				 Airpack <small>Netherlands</small>		
03	LK	11-3-2024	For Approval			
02	LK	15-12-2023	For Approval			
01	IT	9-11-2023	For Approval			
Rev	By	Date	Description			
				Sheet 5 of 31 Based on P&ID Rev.06		

GENERAL	1	Tag Number		320PG-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				
	18				
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, including baffle wall	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	Connection Location		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	
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NOTES :



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

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				Pressure Gauge		
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02	LK	15-12-2023	For Approval			
01	IT	9-11-2023	For Approval			
Rev	By	Date	Description			

GENERAL	1	Tag Number		320PG-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-B24C-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.	7 bar(g)	75 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14				
	15				
	16				
	17				
	18				
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, including baffle wall	
	26	Lens Material		Shatterproof laminated safety glass	
	27	Pressure Element Material		SS316L	
	28	Socket Material		SS316L	
	29	Connection Size		1/2" NPT-M	
	30	Connection Location		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				
	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	
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NOTES :

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

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لوانت Lavan Industry Development Company
				Pressure Gauge		
				 Airpack <small>Netherlands</small>		
03	LK	11-3-2024	For Approval			
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GENERAL	1	Tag Number		320PT-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		
	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	7,5 bar(g)	
	15		H	HH	12 bar(g)	
	16					
	17					
18						
TRANSMITTER	19	Function		Field mounted		
	20	Element Type		Diaphragm		
	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	320	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					
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		
	45	Calibration certificate		Yes		
CERTIFICATES	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
	50					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
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NOTES :
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				INSTRUMENT DATASHEET		 <p>شرکت توسعه صنایع لوان Lavan Industry Development Company</p>
				Pressure Transmitter		
						
03	LK	11-3-2024	For Approval			
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GENERAL	1	Tag Number		320PT-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-D42-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.	39 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		Diaphragm		
	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					
PURCHASE	50					
	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
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NOTES :
 The manifold material should be 316 Stainless Steel 2-valve complete of oval flanges with mounting bolts, gasket, etc

				INSTRUMENT DATASHEET		 <p>شرکت توسعه صنایع لوان Lavan Industry Development Company</p>
				Pressure Transmitter		
						
03	LK	11-3-2024	For Approval			
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GENERAL	1	Tag Number		320PT-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	
	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)	116 °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		Diaphragm	
	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				
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

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لافات Lavan Industry Development Company
				Pressure Transmitter		
						
03	LK	11-3-2024	For Approval			
02	LK	15-12-2023	For Approval			
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GENERAL	1	Tag Number		320PT-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	
	15		H	HH	
	16				
	17				
18					
TRANSMITTER	19	Function		Field mounted	
	20	Element Type		Diaphragm	
	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...5	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				
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

				INSTRUMENT DATASHEET		
				Pressure Transmitter		
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02	LK	15-12-2023	For Approval			
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Rev	By	Date	Description			Based on P&ID Rev.06



GENERAL	1	Tag Number		320TT-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 with remote element	
	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		Internal 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		Overrange	
	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	52				
	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
57					

Notes:

				INSTRUMENT DATASHEET Temperature Transmitter		 لوان صنعت توسعه شرکت Lavan Industry Development Company
03	LK	11-3-2024	For Approval			
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01	TT	9-11-2023	For Approval	Sheet 12 of 31		
Rev	By	Date	Description	Based on P&ID Rev.06		



GENERAL	1	ThermowellTag Number		320TW-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				
	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		200 mm	
	26				
	27				
	28				
ELEMENT	30	ElementTag Number		320TE-8201	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Accuracy Class		Class 1	
	34	Outside Diameter Sensor		6 mm	
	35	Connection		3/4" NPT	
	36	Element Length		To fit in Thermowell	
	37	Type Of Cable		Armoured	
	38	Cable Length		5 m	
	39	Sheat Material		SS 316	
	40				
	41				
	42				
	43				
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 :

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لافات Lavan Industry Development Company
				Thermowell + Element		
03	LK	11-3-2024	For Approval	 Sheet 13 of 31 Based on P&ID Rev.06		
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320TT-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	
TRANSMITTER	16					
	17	Function		Field mounted with remote element		
	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		Internal 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		Overrange		
	29	Communication Protocol		Smart , HART		
	30	Output Signal		4-20 mA		
	31	Adjustable Range		Yes		
OPTIONS	32					
	33					
	34					
	35					
	36					
	37					
	38					
CERTIFICATES	39					
	40					
	41					
	42	Integral Meter	Scale	Yes, LCD		°C
PURCHASE	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		
PURCHASE	48	Calibration certificate		Yes		
	49					
	50					
	51					
PURCHASE	52					
	53	Manufacturer		According to approved vendor list		
	54	Model		VTA		
	55					
56						
57						

Notes:

				INSTRUMENT DATASHEET		شرکت توسعه فناوریات Lavan Industry Development Company	
				Temperature Transmitter			
03	LK	11-3-2024	For Approval			Sheet 14 of 31	
02	LK	15-12-2023	For Approval			Based on P&ID Rev.06	
01	TT	9-11-2023	For Approval				
Rev	By	Date	Description				



GENERAL	1	ThermowellTag Number		320TW-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		240 mm	
	26				
ELEMENT	30	ElementTag Number		320TE-8202	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Accuracy Class		Class 1	
	34	Outside Diameter Sensor		6 mm	
	35	Connection		3/4" NPT	
	36	Element Length		To fit in Thermowell	
	37	Type Of Cable		Armoured	
	38	Cable Length		5 m	
	39	Sheat Material		SS 316	
	40				
	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 :

				INSTRUMENT DATASHEET		
				Thermowell + Element		
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01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320TT-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.	39,0 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 with remote element	
	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		Internal 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		Overrange	
	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	52				
	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
57					

Notes:

				INSTRUMENT DATASHEET Temperature Transmitter		شرکت توسعه صنایع لیاوت Lavan Industry Development Company 	
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GENERAL	1	ThermowellTag Number		320TW-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.	39,0 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		240 mm	
	26				
ELEMENT	30	ElementTag Number		320TE-8203	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Accuracy Class		Class 1	
	34	Outside Diameter Sensor		6 mm	
	35	Connection		3/4" NPT	
	36	Element Length		To fit in Thermowell	
	37	Type Of Cable		Armoured	
	38	Cable Length		5m	
	39	Sheat Material		SS 316	
	40				
	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 :

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لوان Lavan Industry Development Company
				Thermowell + Element		
03	LK	11-3-2024	For Approval	 Sheet 17 of 31 Based on P&ID Rev.06		
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GENERAL	1	Tag Number		320TT-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 with remote element		
	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		Internal 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		Overrange		
	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	52					
	53	Manufacturer		According to approved vendor list		
	54	Model		VTA		
	55					
	56					
57						

Notes:

				INSTRUMENT DATASHEET Temperature Transmitter		 شرکت توسعه صنایع لوان Lavan Industry Development Company
03	LK	11-3-2024	For Approval			
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GENERAL	1	ThermowellTag Number		320TW-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		240 mm	
	26				
ELEMENT	30	ElementTag Number		320TE-8204	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Accuracy Class		Class 1	
	34	Outside Diameter Sensor		6 mm	
	35	Connection		3/4" NPT	
	36	Element Length		To fit in Thermowell	
	37	Type Of Cable		Armoured	
	38	Cable Length		5m	
	39	Sheat Material		SS 316	
	40				
	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 :

				INSTRUMENT DATASHEET		
				Thermowell + Element		
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Rev	By	Date	Description			



GENERAL	1	Tag Number		320TT-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		4"-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)	116 °C
	13	Ambient Temp.	Min. Max.	0 °C	49 °C
	14	Setpoint	LL L		
	15		H HH	65	70
16					
TRANSMITTER	17	Function		Field mounted with remote element	
	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		Internal 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		Overrange	
	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	52				
	53	Manufacturer		According to approved vendor list	
	54	Model		VTA	
	55				
	56				
57					

Notes:

				INSTRUMENT DATASHEET Temperature Transmitter		 شرکت توسعه صنایع لوات Lavan Industry Development Company
03	LK	11-3-2024	For Approval	 Sheet 20 of 31 Based on P&ID Rev.06		
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	ThermowellTag Number		320TW-8205	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package outlet	
	5	Line number		4"-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)	116 °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		90 mm	
	26				
ELEMENT	30	ElementTag Number		320TE-8205	
	31	Construction		Sensor with lead wire, transition and relief spring	
	32	Type Of Element		Type 'K'	
	33	Accuracy Class		Class 1	
	34	Outside Diameter Sensor		6 mm	
	35	Connection		3/4" NPT	
	36	Element Length		To fit in Thermowell	
	37	Type Of Cable		Armoured	
	38	Cable Length		5m	
	39	Sheat Material		SS 316	
	40				
	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 :

				INSTRUMENT DATASHEET		
				Thermowell + Element		
03	LK	11-3-2024	For Approval			Sheet 21 of 31 Based on P&ID Rev.06
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320TG-8206	
	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		Bi-metallic	
	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				
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			
03	LK	11-3-2024	For Approval	 Netherlands		Sheet	22 of 31
02	LK	15-12-2023	For Approval			Based on P&ID	Rev.06
01	IT	9-11-2023	For Approval				
Rev	By	Date	Description				



GENERAL	1	Thermowell Tag Number		320TW-8206	
	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		200 mm	
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
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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		 <p>شرکت توسعه صنایع لوان Lavan Industry Development Company</p>
				Thermowell		
03	LK	11-3-2024	For Approval			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.06



GENERAL	1	Tag Number		320TG-8207		
	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					
GAUGE	19	Type		Bi-metallic		
	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					
PURCHASE	51	Manufacturer		According to approved vendor list		
	52	Model		VTA		
	53					
	54					
	55					
	56					
	57					

NOTES :

				INSTRUMENT DATASHEET		 شرکت توسعه صنایع لوات Lavan Industry Development Company	
				Temperature Gauge			
03	LK	11-3-2024	For Approval	 Netherlands		Sheet	24 of 31
02	LK	15-12-2023	For Approval			Based on P&ID	Rev.06
01	IT	9-11-2023	For Approval				
Rev	By	Date	Description				



GENERAL	1	Thermowell Tag Number		320TW-8207	
	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		240 mm	
	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				
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	57				

NOTES :

				INSTRUMENT DATASHEET		
				Thermowell		
03	LK	11-3-2024	For Approval			Sheet 25 of 31 Based on P&ID Rev.06
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320TG-8208	
	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 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				
GAUGE	19	Type		Bi-metallic	
	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				
PURCHASE	51	Manufacturer		According to approved vendor list	
	52	Model		VTA	
	53				
	54				
	55				
	56				
	57				

NOTES :

				INSTRUMENT DATASHEET		 شركة لافان للصناعة والتطوير لافان Industry Development Company
				Temperature Gauge		
				 Airpack <small>Netherlands</small>		
03	LK	11-3-2024	For Approval			
02	LK	15-12-2023	For Approval			
01	IT	9-11-2023	For Approval			
Rev	By	Date	Description			
				Sheet 26 of 31 Based on P&ID Rev.06		



GENERAL	1	Thermowell Tag Number		320TW-8208	
	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.	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		240 mm	
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
37					
38					
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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 لوات Lavan Industry Development Company
				Thermowell		
03	LK	11-3-2024	For Approval	 Sheet 27 of 31 Based on P&ID Rev.06		
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			



GENERAL	1	Tag Number		320TG-8209		
	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		4"-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)	116 °C	
	13	Ambient Temp.	Min. Max.	0 °C	49 °C	
	14					
	15					
	16					
	17					
	18					
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		TBD	
	35		Capillary Material		SS316	
	36		Armor Material		SS316	
	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 لایان Lavan Industry Development Company	
				Temperature Gauge			
03	LK	11-3-2024	For Approval	 Netherlands		Sheet	28 of 31
02	LK	15-12-2023	For Approval			Based on P&ID	Rev.06
01	IT	9-11-2023	For Approval				
Rev	By	Date	Description				



GENERAL	1	Thermowell Tag Number		320TW-8209	
	2	Service		Air temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Package outlet	
	5	Line number		4"-IA-320-08-D42-N	
	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.	60 °C	
	12	Design	Press. Temp.	39 bar(g)	116 °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		90 mm	
	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 لوات Lavan Industry Development Company
				Thermowell		
03	LK	11-3-2024	For Approval	 Airpack <small>Netherlands</small>		
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description	Sheet 29 of 31 Based on P&ID Rev.06		



GENERAL	1	Tag Number		320TG-8210, 320TG-8211		
	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		4"-CWR-320-24-B24C-N	4"-CWR-320-22-B24C-N	
	7	Area classification		Safe area		
	8					
PROCESS CONDITIONS	9	Fluid	State	Water	Liquid	
	10	Pressure	Norm. Max.	4,4 bar(g)		
	11	Temperature	Norm. Max.	36 °C	46 °C	
	12	Design	Press. Temp.	7 bar(g)	75 °C	
	13	Ambient Temp.	Min. Max.	0 °C	49 °C	
	14					
	15					
	16					
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		TBD	
	35		Capillary Material		SS316	
	36		Armor Material		SS316	
	37					
	38					
39						
40						
41						
42						
43						
44						
CERTIFICATES	45	Calibration certificate		Yes		
	46	3.1 Material certificate		Yes		
	47					
	48					
	49					
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			
03	LK	11-3-2024	For Approval	 Airpack Netherlands		Sheet	30 of 31
02	LK	15-12-2023	For Approval			Based on P&ID	Rev.06
01	IT	9-11-2023	For Approval				
Rev	By	Date	Description				

GENERAL	1	Thermowell Tag Number		320TW-8210, 320TW-8206	
	2	Service		Water temperature	
	3	P&ID No.		N278-VD-6019-PR-PID-0002	
	4	Location		Cooling water outlet	
	5	Line number		4"-CWR-320-24-B24C-N	4"-CWR-320-22-B24C-N
	6	Area classification		Safe area	
	7				
	8				
PROCESS CONDITIONS	9	Fluid	State	Water	Liquid
	10	Pressure	Norm. Max.	4,4 bar(g)	
	11	Temperature	Norm. Max.	36 °C	46 °C
	12	Design	Press. Temp.	7 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		90 mm	
	26				
	27				
	28				
	29				
	30				
	31				
	32				
	33				
	34				
	35				
	36				
	37				
	38				
OPTIONS	46				
	47				
CERTIFICATES	49	3.1 Material certificate		Yes	
	50				
	51				
	52				
CALCULATIONS	53	Wake frequency calculation		Yes	
	54				
	55				
	56				
	57				

NOTES :

				INSTRUMENT DATASHEET		
				Thermowell		
03	LK	11-3-2024	For Approval			Sheet 31 of 31 Based on P&ID Rev.06
02	LK	15-12-2023	For Approval			
01	TT	9-11-2023	For Approval			
Rev	By	Date	Description			