ANL-9080

80GHz Radar Level Transmitters

Catalog V.2024

Phoenix. Chen

CHINASIMBA www.chinasimba.com

SN: DY.10.05.218

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Contents

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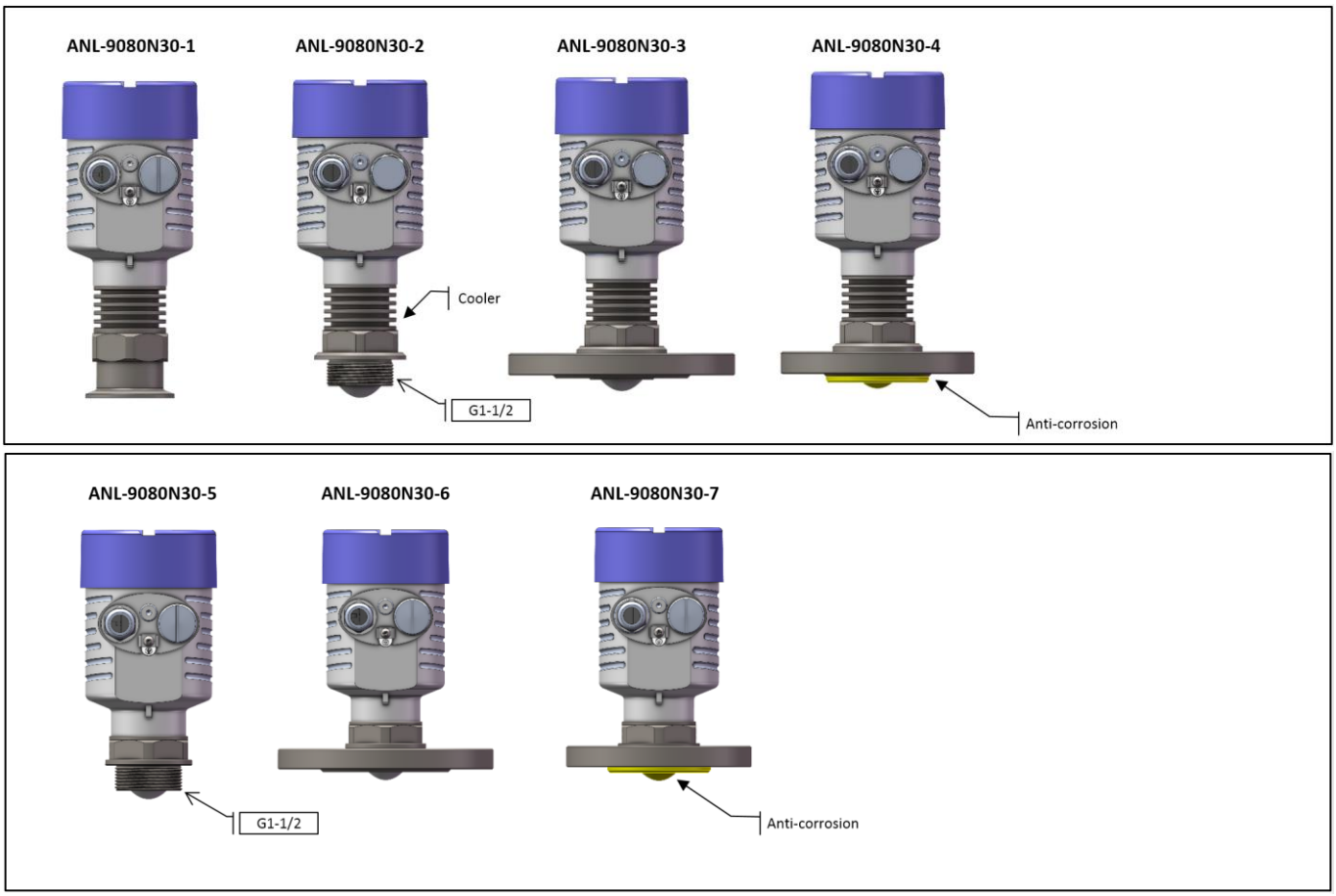
ANL-9080 80GHz FMCW radar level Gauges Overview

There are different frequencies for different radar level transmitters and the frequency can impact the measurement performance. when measuring in the absence (or less) of vapor and foam, the (ANL-9080) 80GHz frequency radar level transmitter is preferred in most normal applications due to greater mounting flexibility.
There are four kinds of the ANL-9080 series non-contacting radar transmitters, ANL-9080N30, ANL-9080N50, ANL-9080N80 and ANL-9080N100. The ANL-9080N30, ANL-9080N50, ANL-9080N80 are the superior performance 2/4-wire transmitters, which are suitable for most applications. The ANL-9080N100 is the 2/4-wire transmitter for some challenging applications.

9080N30 version

It's an ideal for small tanks and corrosive applications, there are 2 types of anti-corrosion models, and suitable for applications in small space installation conditions.

Minimum configurable flange size:	>= DN32
Minimum coupling thread size:	G1-½ NPT
Suitable Process Temperature Scope (*Min. … Max.*):	-60˚C … 250˚C
Suitable Process Pressure scope (*Min. … Max.*):	-1.0 … 5.0 MPa
Antenna Lens Aperture:	Diameter Ø30mm
Antenna Beam Angle interval:	6˚ … 8˚
Max. measuring limit range:	20M @liquid medium



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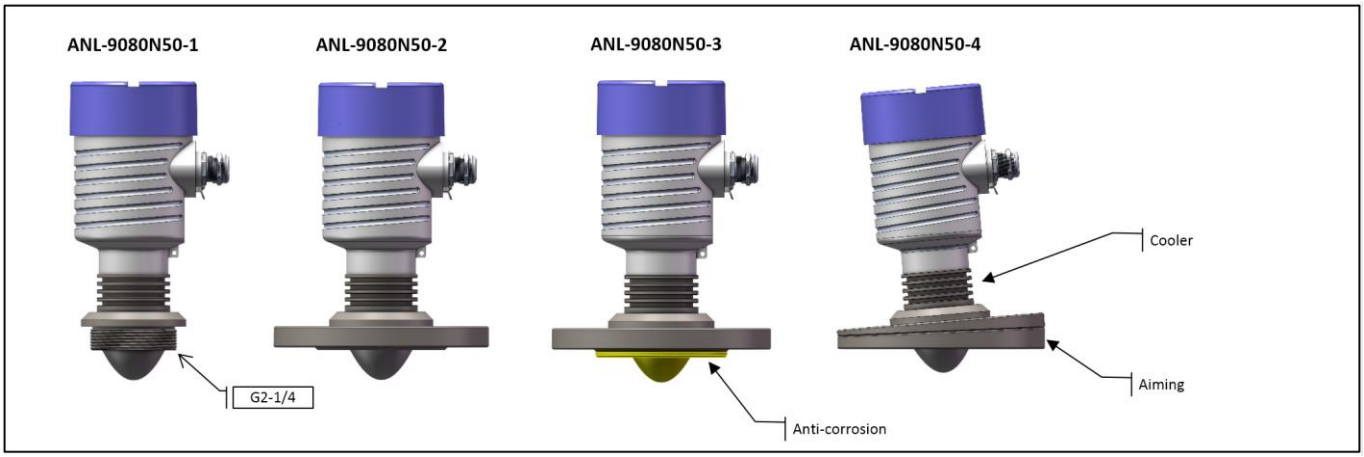
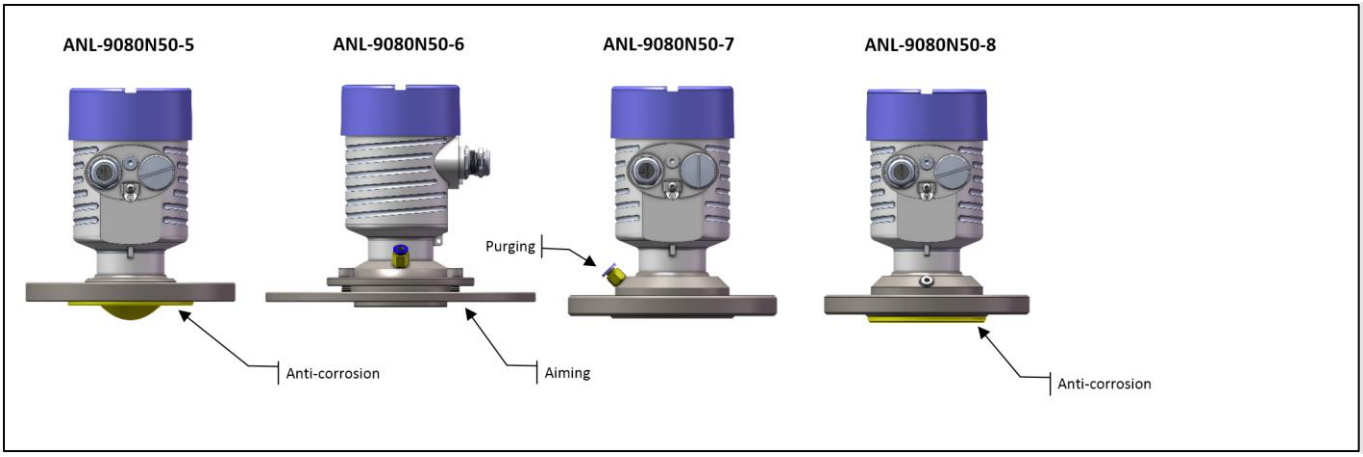
9080N50 version

Suitable for small (or some medium-sized) process connections (liquid, solid, powder) and corrosive environment, there are 3 types of anti-corrosion models, 2 types of aiming or/with purging models and an aiming model which it can hold pressure. The 9080N50 version is a popular and practical model that is ideal for petroleum, chemical industrial process applications.

Minimum configurable flange size:	>= DN50
Minimum coupling thread size:	G2-¼ NPT
Suitable Process Temperature Scope (*Min. … Max.*):	-60˚C … 300˚C
Suitable Process Pressure scope (*Min. … Max.*):	-1.0 … 5.0 MPa
Antenna Lens Aperture:	Diameter Ø50mm
Antenna Beam Angle interval:	4˚ … 6˚
Max. measuring limit range:	40M @liquid medium





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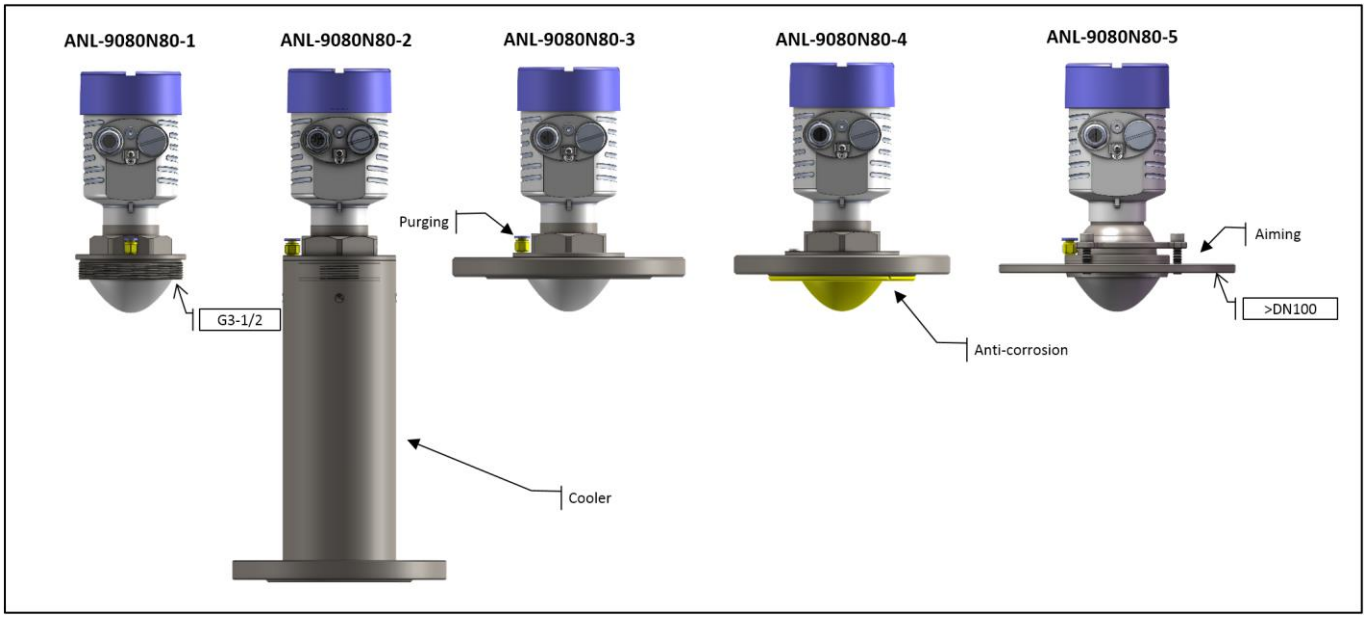
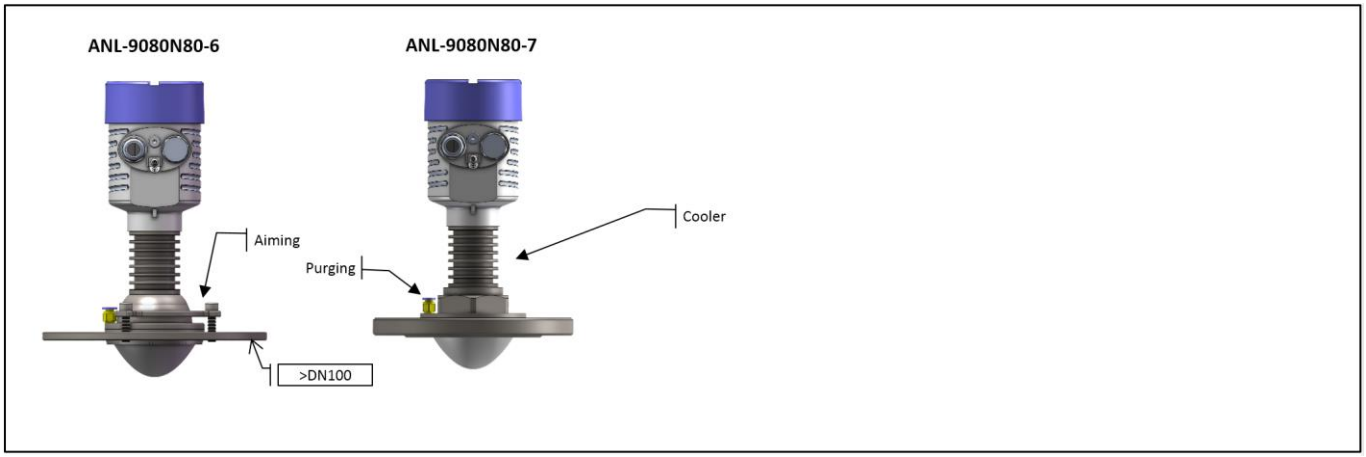
9080N80 version

Suitable for medium-sized process connections (liquid, solid, powder) and corrosive environment, and suitable for some extreme process conditions, higher temp difficult process conditions. Also good for heavy antenna condensation/build-up. It is a very flexible and practical model that can also be customized according to the process conditions of the application.

Minimum configurable flange size:	>= DN80
Minimum coupling thread size:	G3-½ NPT
Suitable Process Temperature Scope (*Min. … Max.*):	-60˚C … 200˚C / 450˚C (9080N80-2)
Suitable Process Pressure scope (*Min. … Max.*):	-1.0 … 3.5 MPa
Antenna Lens Aperture:	Diameter Ø80mm
Antenna Beam Angle interval:	4˚ … 6˚
Max. measuring limit range:	100M @liquid medium





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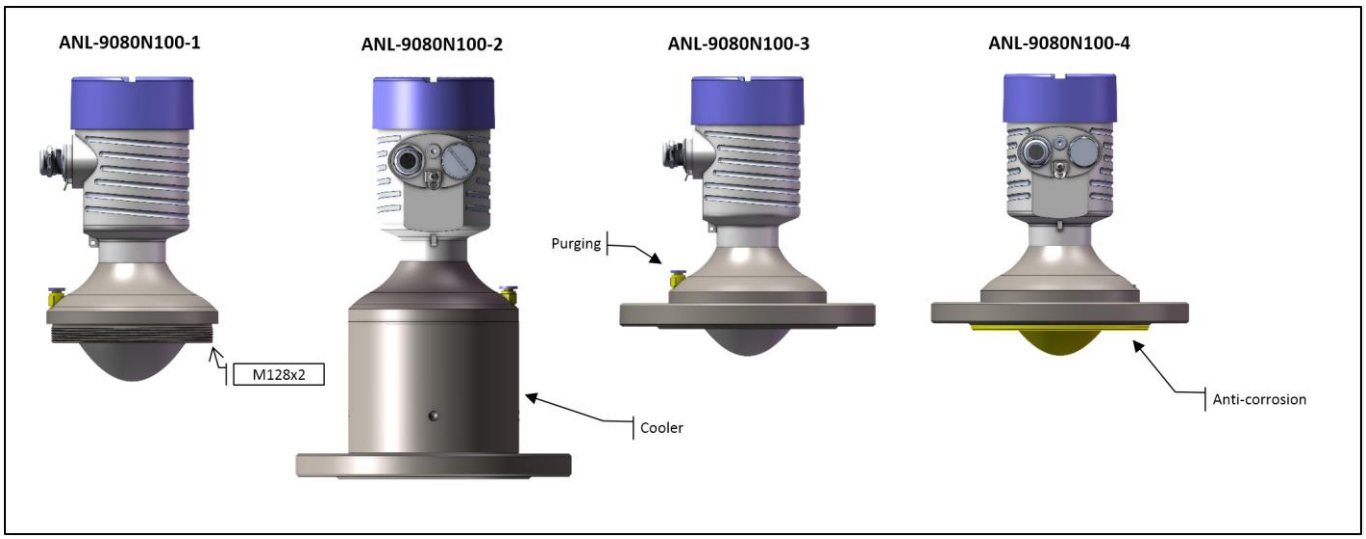
9080N100 version

Best choice for a broad range of applications, free propagation and pipe installations. Superior microwave management. Require large tank opening, and best choice for solids, long range.

Note: The 9080N100 does not have an aiming model.

Minimum configurable flange size:	>= DN100
Minimum coupling thread size:	M128x2
Suitable Process Temperature Scope (*Min. … Max.*):	-60˚C … 200˚C / 450˚C (9080N100-2)
Suitable Process Pressure scope (*Min. … Max.*):	-1.0 … 3.5 MPa
Antenna Lens Aperture:	Diameter Ø100mm
Antenna Beam Angle interval:	3˚ … 5˚
Max. measuring limit range:	150M @liquid medium



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Summary of the ANL-9080 model parameter table

ANL-9080 model	Connection Type	Process contact surface material	Lens Ant. Diameter mm	Ant. Beam Angle °	Antenna Gain dB	Min. Temp. : Max. Temp. Process Temp. ℃	Min. : Max. Pressure Mpa	Max. Radar Range (M) Recommended medium	Still pipe	Purging	Aiming on Stress	Aiming	Anti-corrosion
9080N30-1	Sanitary fittings DN 50	SST/PTFE (default) Or PEEK	30	6	26	-40 150 -60 150	-0.5 0.8 -1.0 5.0	20M for liquid, 10M for powder	√				
9080N30-2	Thread G1-1/2 NPT	SST/PTFE (default) Or PEEK	30	6	26	-40 150 -60 150	-0.5 0.8 -1.0 5.0	20M for liquid, 10M for solid	√				
9080N30-3	Thread >= DN32	SST/PTFE (default) Or PEEK	30	6	26	-40 250 -60 250	-0.5 0.8 -1.0 5.0	20M for liquid, 10M for solid					
9080N30-4	Min. flange >= DN32	SST/PTFE (default)	30	6	26	-40 250	-0.5 0.8	20M for liquid, 10M for solid					√
9080N30-5	Thread G1-1/2 NPT	SST/PTFE (default)	30	8	25	-40 150	-0.5 0.8	20M for liquid, 10M for solid	√				
9080N30-6	Min. flange >= DN32	SST/PTFE (default) Or PEEK	30	8	25	-50 180 -60 180	-0.5 0.8 -1.0 5.0	20M for liquid, 10M for solid					
9080N30-7	Min. flange >= DN32	SST/PTFE (default)	28	8	25	-40 180	-0.5 0.8	20M for liquid, 10M for solid					√
9080N50-1	Thread G2-1/4 NPT	SST/PTFE (default) Or PEEK	50	5	29	-40 150 -60 150	-0.8 0.8 -1.0 5.0	40M for liquid, 30M for solid	√				
9080N50-2	Min. flange >= DN50	SST/PTFE (default) Or PEEK	50	5	29	-40 200 -60 200	-0.8 0.8 -1.0 5.0	40M for liquid, 30M for solid					
9080N50-3	Min. flange >= DN50	SST/PTFE (default)	50	5	29	-40 200	-0.8 0.8	40M for liquid, 30M for solid					√
9080N50-4	Min. flange >= DN50	SST/PTFE (default) Or PEEK	50	5	29	-40 200 -60 200	-0.8 0.8 -1.0 5.0	40M for liquid, 30M for solid			√		
9080N50-5	Min. flange >= DN50	SST/PTFE (default)	48	5	28	-40 180	-0.8 0.8	40M for liquid, 30M for solid					√
9080N50-6	Min. flange >= DN80	SST/PTFE (default)	48	5	28	-40 180 -60 180	-0.8 0.8 -1.0 5.0	40M for liquid, 30M for solid		√*		√	
9080N50-7	Min. flange >= DN50 (or M80x2 obsolete)	SST/PTFE (default) Or PEEK	48	5	28	-40 180 -60 180	-0.8 0.8 -1.0 5.0	40M for liquid, 30M for solid		√*			
9080N50-8	Min. flange >= DN50	SST/PTFE (default)	48	5	28	-40 180	-0.8 0.8	40M for liquid, 30M for solid					√
9080N80-1	Thread G3-1/2 NPT	SST/PTFE (default) Or PEEK	80	4.5	31	-40 150 -60 150	-0.2 0.5 -1.0 3.5	0.1 ... 100M	√	√*			
9080N80-2	Min. flange >= DN80	SST/PTFE (default) Or PEEK	80	4.5	31	-40 450 -60 450	-0.2 0.5 -1.0 3.5	0.1 ... 100M	√	√*			
9080N80-3	Min. flange >= DN80	SST/PTFE (default) Or PEEK	80	4.5	31	-40 180 -60 180	-0.2 0.5 -1.0 3.5	0.1 ... 100M		√*			
9080N80-4	Min. flange >= DN80	SST/PTFE (default)	80	4.5	31	-40 180	-0.2 0.5	0.1 ... 100M					√
9080N80-5	Min. flange >= DN100	SST/PTFE (default) Or PEEK	80	4.5	31	-40 180 -60 180	-0.2 0.5 -0.2 0.5	0.1 ... 100M		√		√	
9080N80-6	Min. flange >= DN100	SST/PTFE (default) Or PEEK	80	4	32	-40 300 -60 300	-0.2 0.5 -0.2 0.5	0.1 ... 100M		√		√	
9080N80-7	Thread G3-1/2 NPT	SST/PTFE (default) Or PEEK	80	4	32	-40 280 -60 280	-0.2 0.5 -1.0 3.5	0.1 ... 100M	√	√*			
9080N100-1	Thread M128x2 NPT	SST/PTFE (default) Or PEEK	100	3.5	32	-40 180 -60 180	-0.2 0.5 -1.0 3.5	0.15 ... 100M (150M option)	√	√*			
9080N100-2	Min. flange >= DN100	SST/PTFE (default) Or PEEK	100	3.5	32	-40 350 -60 350	-0.2 0.5 -1.0 3.5	0.15 ... 100M (150M option)		√*			
9080N100-3	Min. flange >= DN100	SST/PTFE (default) Or PEEK	100	3.5	32	-40 200 -60 200	-0.2 0.5 -1.0 3.5	0.15 ... 100M (150M option)		√*			
9080N100-4	Min. flange >= DN100	SST/PTFE (default)	100	3.5	32	-40 200	-0.2 0.5	0.15 ... 100M (150M option)					√

Note: *Under the condition of purging function, the process pressure should not exceed 1.5MPa.

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Model selection guide for the ANL-9080 based on different process media characteristics

ANL-9080 : Guidelines on which model and antenna to select, depending on application

ANL-9080 Model and Antenna Guide		ANL-9080N30-1	ANL-9080N30-2	ANL-9080N30-3	ANL-9080N30-4	ANL-9080N30-5	ANL-9080N30-6	ANL-9080N30-7	ANL-9080N50-1	ANL-9080N50-2	ANL-9080N50-3	ANL-9080N50-4	ANL-9080N50-5	ANL-9080N50-6	ANL-9080N50-7	ANL-9080N50-8	ANL-9080N80-1	ANL-9080N80-2	ANL-9080N80-3	ANL-9080N80-4	ANL-9080N80-5	ANL-9080N80-6	ANL-9080N80-7	ANL-9080N100-1	ANL-9080N100-2	ANL-9080N100-3	ANL-9080N100-4
充气环境	Aeration	!	!	!	!	✓	!	✓	✓	!	✓	!	✓	!	!	✓	✓	✓	✓	✓	!	!	!	!	!	!	✓
搅拌	Agitation	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
环境温度变化	Ambient temperature changes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
堆积	build-up	✓	✗	✗	✗	✗	✗	✗	!	!	!	✓	!	✓	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
沸腾/湍流表面（低/中）	Boiling / Turbulent surface (low/medium)	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
沸腾/湍流表面（重）	Boiling / Turbulent surface (heavy)	✗	✗	✗	✗	✗	✗	✗	!	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
沸腾/湍流表面（蒸馏管）	Boiling / Turbulent surface(still-pipe)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
腐蚀	Corrosive products (options available)	✗	✗	✗	✗	✓	✗	✓	✗	✗	✓	✗	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✓
冷凝蒸汽/产品	Condensing vapor / product	✗	✗	✗	✗	✗	✗	!	✓	✓	✓	✓	!	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
改变密度/电介质/pH/压力/温度	Changing density/dielectric/pH/ pressure/temperature	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	✓	✓	✓	✓
涂料/粘性/结晶液体	Coating/viscous/crystallizing liquids	✓	!	!	!	!	!	✓	!	!	✓	!	✓	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
灰尘	Dust	✓	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
乳剂	Emulsion	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
泡沫	Foam	✓	✗	✓	✓	✗	✗	✗	✓	✓	✓	✓	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
泡沫（蒸馏管）	Foam (still-pipe)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
工艺温度上限高	High process temperature limits	!	✗	!	!	!	✗	✗	!	!	!	!	✗	✗	✗	✗	!	✓	!	!	!	✓	✓	!	!	!	!
容器压力限制高	High vessel pressure limits	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
内部障碍物	Internal obstructions	✗	✗	✗	✗	✗	✗	✗	!	!	!	✓	!	✓	!	!	!	!	!	!	✓	✓	!	✓	✓	✓	✓
工艺温度低 (<-40)	Low process temperatures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
低容器压力（真空）	Low vessel pressures (vacuum)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✓	!	!	!	!	!	!	!	!	!	!	!
具有极低介电性的材料	Materials with very low dielectric	!	!	!	!	!	!	!	✓	✓	✓	✓	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
噪声（EMI、电机）	Noise (EMI, motors)	!	!	!	!	!	!	!	✓	✓	✓	✓	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
泥浆	Slurries	!	!	!	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
固体、颗粒、粉末	Solids, granules, powders (bulk solids)	✗	!	✗	✗	!	!	✗	✓	✓	✓	✓	!	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
粘性、粘性产品	Viscous, sticky product	✗	!	✗	✗	!	!	✗	✓	✓	✓	✓	✓	!	!	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
持续蒸气（轻、中）	Vapor (light, medium)	✗	✗	✗	✗	✗	✗	✗	!	!	!	!	!	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
持续蒸气（重）	Vapor (heavy)	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	!	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
辐射污染物	Radiation contaminants	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

✗ Not Recommended
! Application Dependent (consult CHINASIMBA representative)
✓ Good