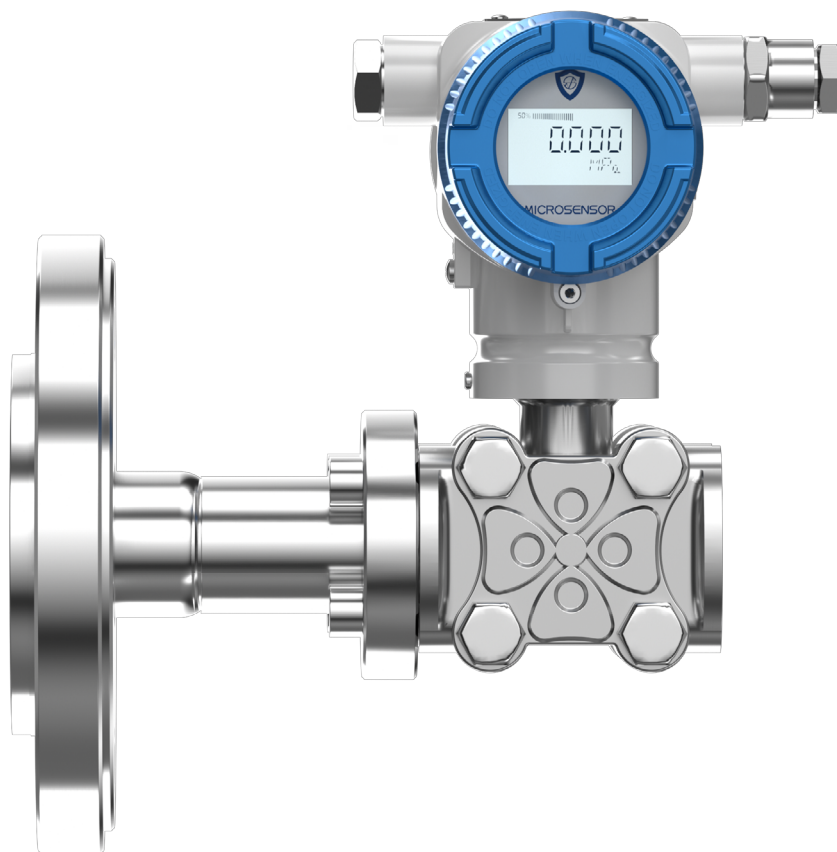


MDM7000-LT

**Smart Pressure Transmitter-Differential Pressure
Flange Diaphragm Seal**



Note: Some certificates are still pending.

Range

Nominal range	Minimum range	Lower (LRL)	Upper (URL)
0.4bar	0.1bar	-0.4bar	0.4bar
2.5bar	0.25bar	-2.5bar	2.5bar
10bar	1bar	-5bar	10bar

LRV/URV setting: the lower limit value (LRV) and upper limit value (URV) are achieved between the upper and lower limits. If $|URV| \geq LRV$, $|URV|$ must be larger than the minimum pressure; if $|URV| \leq LRV$, $|LRV|$ must be larger than the minimum pressure.

It is recommended to choose a range ratio with the minimum possible value.

Accuracy

1. Stated reference accuracy include best fit straight line(BFSL), hysteresis, and repeatability as per the standard and reference test conditions. Calibration temperature: 20°C ±5°C, based on Zero value.

2. Total performance is based on combined errors of indoor temperature accuracy, ambient temperature effects and static pressure effects, calculated by the following formula: Total performance = $\pm\sqrt{(E1)^2 + (E2)^2 + (E3)^2}$;

E1=Indoor temperature accuracy E2=Ambient temperature effects E3=Static pressure effects

Linear output accuracy	TD≤5	±0.075%+Diaphragm seal system effects	0.4bar, 2.5bar, 10bar
	TD>5	±(0.025+0.045TD% + Diaphragm seal system effects	

Square root output accuracy is 1.5 times linear output accuracy.

Note: TD(Turn down) represents the range ratio, TD= Maximum range / Current range, Maximum range = URL (range starts with 0, same as factory calibration range); Current range = SPAN (equivalent to |URV-LRV|).

Specifications

Accuracy	±0.075% URL + Diaphragm seal system effects
Range	0.4bar~2.5bar, see the specifications for details
Turn down ratio	100:1
Long-term stability	±0.1% Span/10 years
Ambient temperature effects	The total effect per 10°C in the range of -20°C ~80°C: (0.375+0.125TD)%/10°C of SPAN
Voltage effects	Zero and span shifts shall not exceed ±0.005% URL/V for power supply variations within 18.3V~44V DC
Mounting position effects	The installation of the transmitter may produce a zero point error, which can be corrected by PV (primary value) =0 reset without any effect on the range.
Vibration effects	< 0.1% SPAN as per GB/T18271.3/IEC61298-3
Output signal	4mA~20mA DC, HART
IP rating	IP67, IP66
Weight	With DN50 flange: Approx. 12.6kg (Excluding capillary tube) With DN80 flange: Approx. 15.5kg (Excluding capillary tube)

Environmental Conditions

Items	Conditions
Ambient temperature ^①	Without LCD display: -50°C ~85°C ; with LCD display: -40°C ~70°C
Storage temperature	Without LCD display: -50°C ~100°C ; with LCD display: -40°C ~85°C
Ambient humidity	5%RH~100%RH@40°C

Note: ^① For short-neck explosion-proof models, ensure that the enclosure surface temperature ≤ 80°C . If uncertain, the medium temperature shall not exceed the T6 (80°C) temperature class.

Diaphragm Operating Temperature

Filling oil type	Code	Medium temperature	Diaphragm ambient temperature
Standard silicone oil	S	-40°C~ 200°C	-40°C~ 85°C
High temperature silicone oil	H	0°C~ 315°C	0°C~ 85°C
Low temperature silicone oil	L	-55°C ~120°C	-40°C ~85°C
Fluorinated oil	E	-55°C~ 85°C	-40°C~ 85°C

Power Supply and Load Requirements

Items	Conditions	
Power supply voltage	HART communication protocol/RS 485: 18.3V~44V DC ^① Intrinsically safe HART communication protocol: 18.3V~30V DC	
Load resistance	0Ω~1476Ω ^② for operation mode; 250Ω~800Ω for HART communication	
Transmission distance	<1000m	
Power consumption		
4mA~20mA	≤500mW@24V DC, 20.8mA	

Note: ^① When HART communication is not used, the minimum supply voltage can be 13V. Please consult engineers for details.

^② 1476Ω= (44V-13V) /21mA

EMC Effects

SN	Test items	Standards	Test Conditions	Performance Level
1	Radiated interference (Housing)	GB/T 9254.1/CISPR 32	30MHz~1000MHz	Qualified
2	Conducted interference (DC power port)	GB/T 9254.1/CISPR 32	0.15MHz~30MHz	Qualified
3	Electrostatic discharge immunity test	GB/T 17626.2/IEC61000-4-2	8kV (contact), 15kV (air)	B
4	Radiated, radio-frequency, electromagnetic field immunity test	GB/T 17626.3/IEC61000-4-3	10V/m (80MHz~1GHz)	A
5	Power frequency magnetic field immunity test	GB/T 17626.8/IEC61000-4-8	30A/m	B
6	Electrical fast transient / burst immunity test	GB/T 17626.4/IEC61000-4-4	4kV (5/50ns,100kHz)	B
7	Surge immunity requirements	GB/T 17626.5/IEC61000-4-5	2kV (line to line) 4kV (line to ground) (1.2/50μs)	B
8	Immunity to conducted disturbances induced by radio frequency fields	GB/T 17626.6/IEC61000-4-6	3V/m (150kHz~80MHz)	A

Note: Performance level A: Normal operation within specified limits

Performance level B: Temporary performance degradation permitted, with automatic recovery and no data loss

Time Index

Damping time constant: equals to the combined damping time of electronic components and sensor module
Electronic components damping time: 0s~100s configurable
Sensor module damping time(sensor isolated diaphragm and filled silicone oil):≤ 0.2s (Note: This item is related to the sensor type and whether there is a diaphragm component.)
Turn-on time: ≤6s
Factory reset time: ≤31s
Response time: ≤100ms

Hazardous Area

	Ex Standards (association)	Mark	Standard
Hazardous area	Ex Intrinsically safe (PCEC)	Ex ia IIC T4 Ga	GB/T 3836.1-2021 GB/T 3836.4-2021
	Ex Flameproof (PCEC)	Ex db IIC T6 Gb	GB/T 3836.1-2021 GB/T 3836.2-2021
	Ex Dust explosion-proof (NEPSI)	Ex tb IIC T85°C Db	GB/T 3836.1-2021 GB/T 3836.31-2021
	ATEX Intrinsically safe (CSA)	II 1G Ex ia IIC T4 Ga	EN IEC 60079-0:2018 EN 60079-11:2012
	ATEX Flameproof (CSA)	II 2G Ex db IIC T6 Gb	EN IEC 60079-0:2018 EN 60079-1: 2014
	ATEX Dust explosion-proof (CSA)	II 2D Ex tb IIIC T80°C Db	EN IEC 60079-0:2018 EN 60079-31: 2014
	IECEx Intrinsically safe (CSA)	Ex ia IIC T4 Ga	IEC 60079-0: 2017 IEC 60079-11: 2011
	IECEx Flameproof (CSA)	Ex db IIC T6 Gb	IEC 60079-0: 2017 IEC 60079-1: 2014
	IECEx Dust explosion-proof (CSA)	Ex tb IIIC T80°C Db	IEC 60079-0: 2017 IEC 60079-31: 2022
	NA Intrinsically safe (CSA)	Class I, Division 1, Groups A, B, C and D T4 Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4 Ga	CSA C22.2 No. 60079-0:19 CAN/CSA C22.2 No. 60079-11:14(R2023) CAN/CSA C22.2 No. 61010-1-12, UPD1:2015, UPD2:2016, AMD1:2018 ANSI/UL 60079-0-2020 Seventh Edition ANSI/UL 60079-11-2018 (R2023)Sixth Edition ANSI/UL 913-2022 Eighth Edition UL 61010-1, 3rd Edition (2012), AMD1: 2018
	NA Flameproof (CSA) ^①	Class I, Division 1, Group A, B, C and D T6 Class II, Division 1 Group E, F and G T80°C Class III Ex db IIC T6 Gb Class I, Zone 1, AEx db IIC T6 Gb Ex tb IIIC T80°C Db Zone 21, AEx tb IIIC T80°C Db	CAN/CSA C22.2 No.61010-1-12. UPD1:2015. UPD2:2016.AMD1:2018 CSA C22.2 No.25-17 (R2022) CAN/CSA C22.2 No. 30:20 + UPD1 2023 (R2025) CAN/CSA C22.2 No. 60079-0:19 (R2024) CAN/CSA-C22.2 No.60079-1:16 (R2021) CAN/CSA-C22.2 No.60079-31:25 CAN/CSA C22.2 No. 94.2:20 UL 61010-1. 3rd Edition (2012). AMD1:2018 FM 3600:2022 FM 3615:2022 FM 3616:2022 ANSI/UL 60079-0-2020 Seventh Edition ANSI/UL 60079-1-2020 Seventh Edition ANSI/UL 60079-31-2015 Second Edition ANSI/UL 50E-2020 Third Edition
	EAC Explosion-proof	1Ex db IIC T6 Gb 0Ex ia IIC T4 Ga	TP TC012/2011 GOST 31610.0-2019 GOST 31610.11-2014 GOST IEC 60079-1-2013

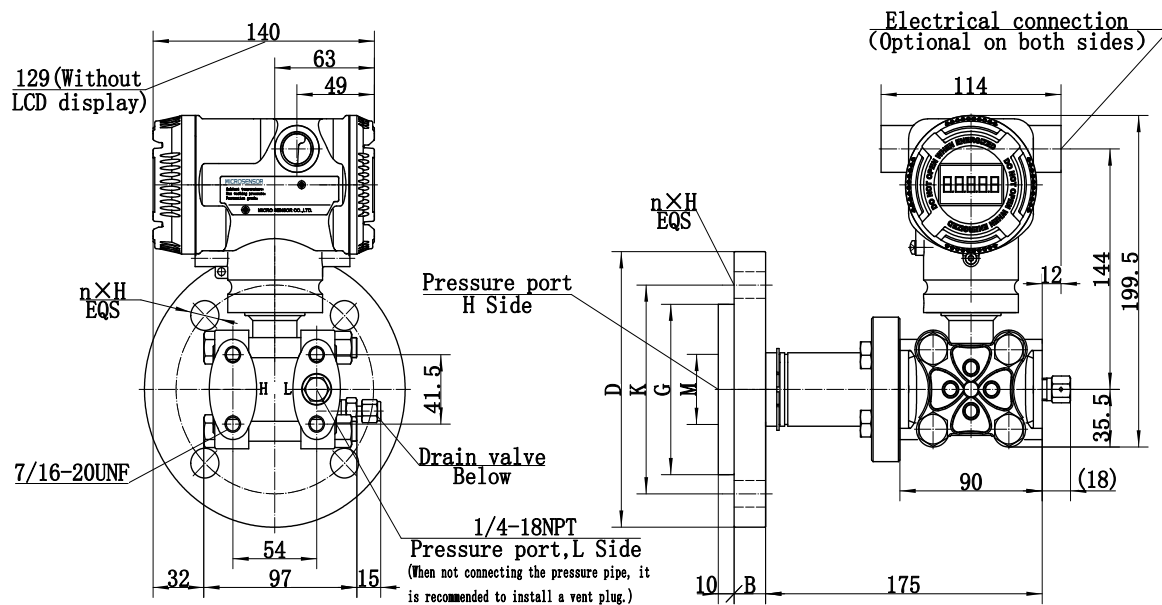
Note: Please consult MICROSENSOR for details.

Dimensions

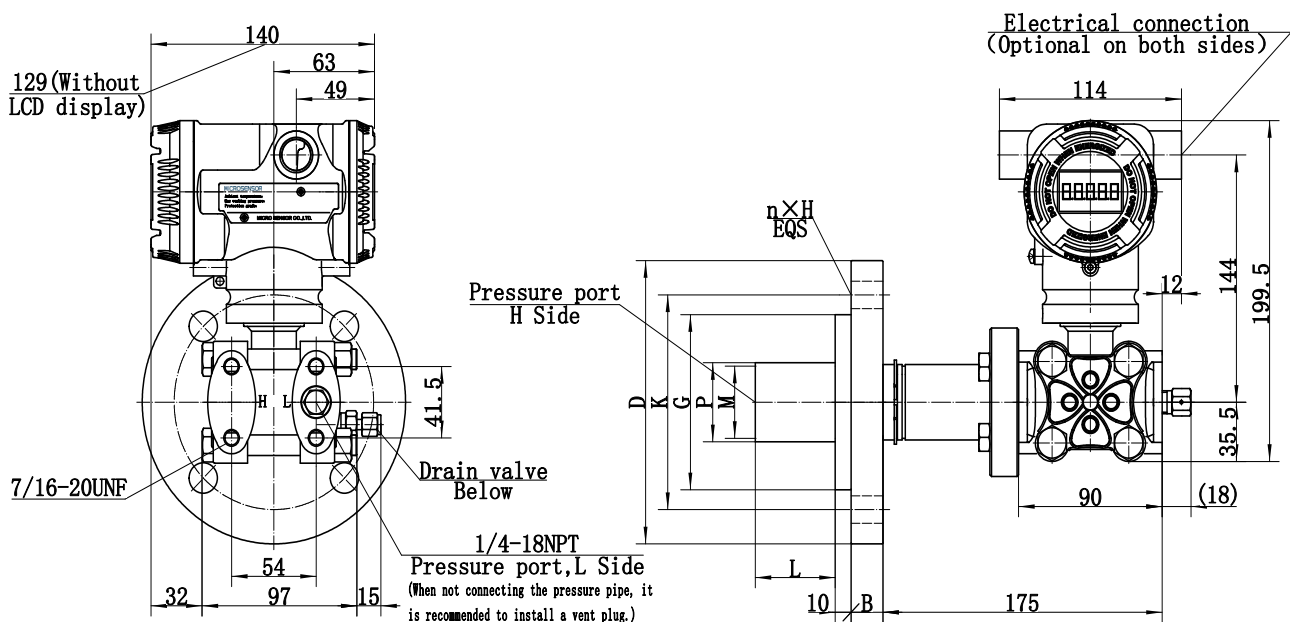
Unit: mm

Note: The cable gland is supplied as an accessory and is to be installed by the user.

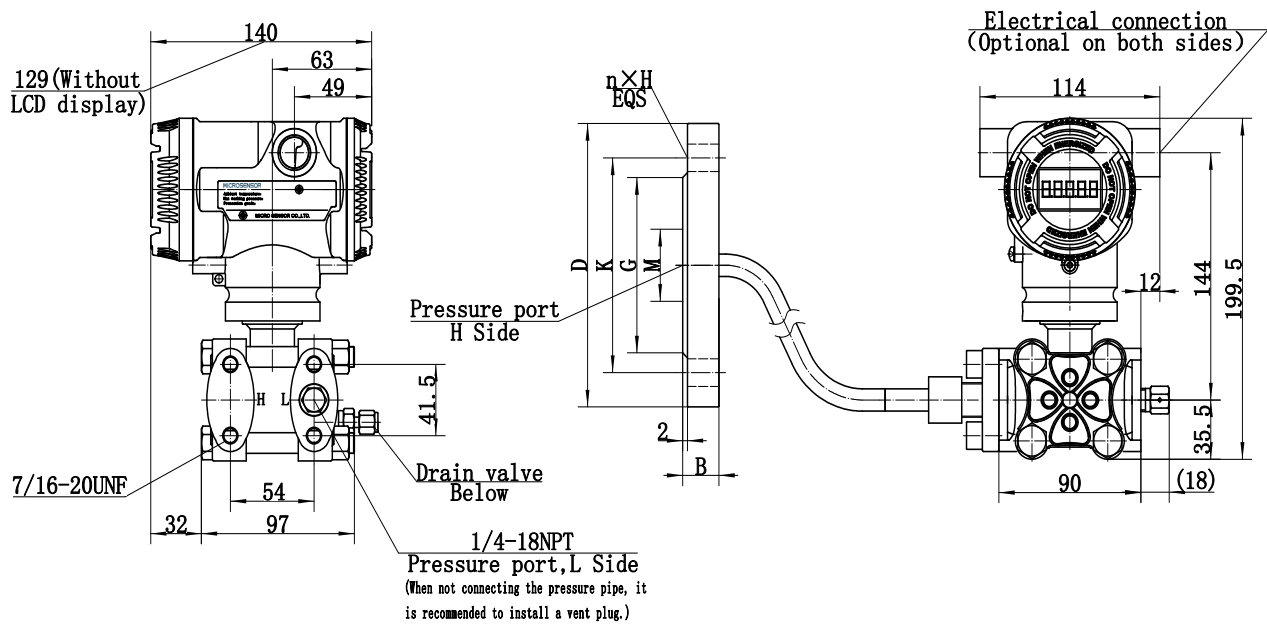
Side Mounted Flange With Display



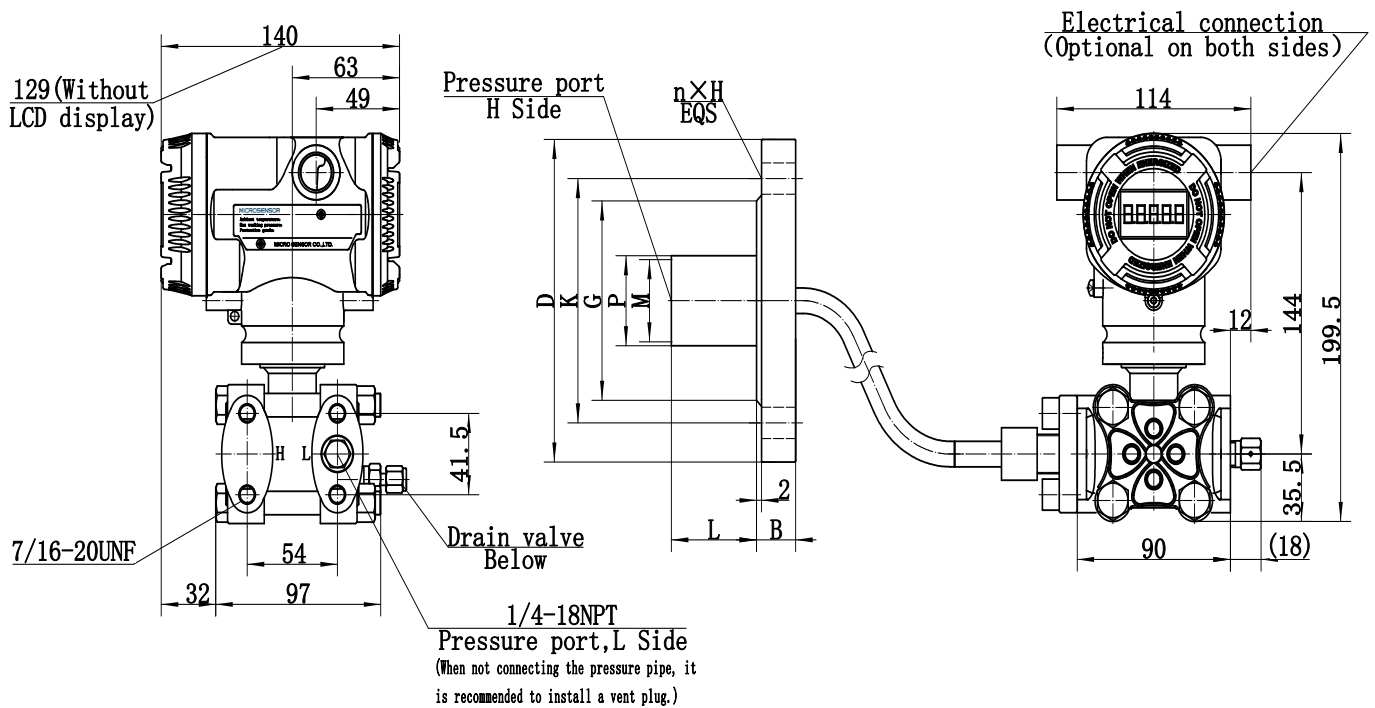
Side Mounted Flange Insertion Sleeve With Display



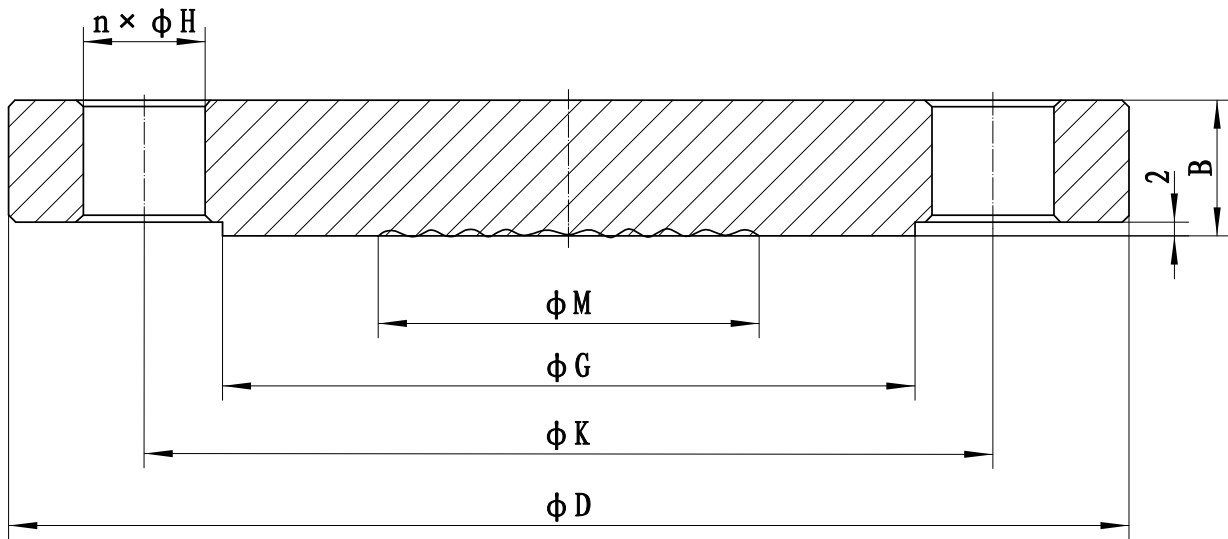
Remote Flange With Display



Remote Flange Insertion Sleeve With Display



Process Connection



Standard	Specification	Outer diameter (φD)	Thickness (B)	Hole circumference (φK)
HG/T20592-2009	DN50PN10	165	20	125
HG/T20592-2009	DN80PN10	200	20	160
HG/T20592-2009	DN100PN10	220	20	180
RF diameter (φG)	Hole diameter (φH)	Quantity (n)	Corrugation diameter (φM)	
102	18	4	56	
138	18	8	56	
158	18	8	56	

Process Connection					
Standard	Specification	Outer diameter(φD)	Thickness(B)	RF diameter(φG)	Hole circumference (φK)
HG/T20592-2009	DN80PN10	200	20	138	160
HG/T20592-2009	DN80PN10	200	20	138	160
HG/T20592-2009	DN80PN10	200	20	138	160
HG/T20592-2009	DN50PN10	165	20	102	125
HG/T20592-2009	DN50PN10	165	20	102	125
HG/T20592-2009	DN50PN10	165	20	102	125
Quantity (n)	Hole diameter (φH)	Insertion sleeve diameter (φP)	Insertion sleeve length (L)	Corrugation diameter (φM)	
8	18	66	50	42	
8	18	66	100	42	
8	18	66	150	42	
4	18	46	150	42	
4	18	46	50	42	
4	18	46	100	42	

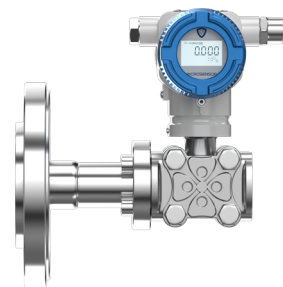
Order Guide

MDM7000-LT — — — **HN** —

Body

Side Mounted Movable Flange Diaphragm

Item	Code	Description
MDM7000-LT	—	Monocrystalline Silicon Differential Pressure Transmitter Side Mounted Diaphragm Seal (Side Mounted Movable Flange Insertion Sleeve)



Basic options

Application of hazardous area	1	China, Flameproof, CE23.6650 Ex db IIC T6 Gb, GB/T3836.1-2021, GB/T3836.2-2021		※
	2	China, Intrinsically safe, CE23.7688X Ex ia IIC T4 Ga, GB/T3836.1-2021, GB/T3836.4-2021		
	3	China, Dust ignition protection, GYB24.1215X Ex tb III C T85°C Db, GB/T3836.1-2021, GB/T 3836.31-2021		
	4	China, Flameproof, Intrinsically safe		
	5	China, Flameproof, Dust ignition protection, Intrinsically safe		
	A	CSA, Flameproof, Dust ignition protection, CSA26CA80192884X Class I, Division 1, Group A, B, C and D T6 Class II, Division 1 Group E, F and G T80°C Class III Ex db IIC T6 Gb Class I, Zone 1, AEx db IIC T6 Gb Ex tb IIIC T80°C Db Zone 21, AEx tb IIIC T80°C Db		
	B	CSA, Intrinsically safe, CSA24CA80156531X Class I, Division 1, Groups A, B, C and D T4 Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4 Ga		
	C	CSA, Flameproof, Intrinsically safe		
	E	ATEX, Flameproof, Dust ignition protection, CSANe 25ATEX1107X II 2G Ex db IIC T6 Gb, II 2D Ex tb IIIC T80°C Db		
	F	ATEX, Intrinsically safe, CSANe 24ATEX1178X II 1G Ex ia IIC T4 Ga		
	G	ATEX, Flameproof, Intrinsically safe	 	
	J	IECEX, Flameproof, Dust ignition protection, IECEX CSA 25.0059X Ex db IIC T6 Gb, Ex tb IIIC T80°C Db		
	K	IECEX, Intrinsically safe, IECEX CSA 24.0045X Ex ia IIC T4 Ga		
	L	IECEX, Flameproof, Intrinsically safe		
M	EAC, Explosion-proof, RU C-CN.AX58.B.05884/24 1Ex db IIC T6 Gb, 0Ex ia IIC T4 Ga			
0	Non-hazardous area			
Output signal	H	4mA~20mA DC, HART		
	V	1V~5V DC low power		
	R	Modbus-RS485		
Housing	S	Cast 316L SS housing, 2 × M20×1.5 female entries		
	U	Cast 316L SS housing, 2 × 1/2 NPT female entries (no glands)		
	P	Aluminum alloy housing (polyester resin coated), 2 × M20×1.5 female entries		
	N	Aluminum alloy housing (polyester resin coated), 2 × 1/2 NPT female entries (no glands)		
Note: 1/2 NPT female entries (without glands) for direct connection with explosion-proof conduits. 304 SS nameplate as standard; consult MICROSENSOR for other materials				
Glands & adapters	Specification	Material	Applicable wire diameter	IP rating
	0	None (No cable glands)		
	A	Single-ended flameproof plug, M20×1.5	316 SS	
	B	Single-ended flameproof plug, 1/2NPT	316 SS	
	1	M20×1.5 Cable gland (watertight) with plug	PVC	6mm~12mm IP67
	2	Non-flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug	316 SS	6mm~8mm IP67

	3	Flameproof adapter M20x1.5 (M) to 1/2 NPT (F) , with plug		316 SS	6mm~12mm	IP67
	4	Flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug		316 SS	6mm~12mm	IP67
	5	Flameproof adapter M20x1.5 (M) to G1/2 (F) , with plug		316 SS	6mm~12mm	IP67
Note: Flameproof configurations are compliant with PCEC, ATEX, and IECEx standards. Flameproof adapters are CCC Ex certified. Please consult MICROSENSOR for double-seal requirements.						
Display	N	Without LCD display, explosion proof type -40°C ~70°C , non-explosion proof type -50°C ~85°C				
	L	With LCD display, explosion proof type/ non-explosion proof type -40°C ~70°C				
—						
Sensor module range		Nominal range	Minimum range	Lower (LRL)	Upper (URL)	
	2	0.4bar	0.1bar	-0.4bar	0.4bar	
	3	2.5bar	0.25bar	-2.5bar	2.5bar	
	4	10bar	1bar	-5bar	10bar	
Low pressure side wetted parts		Diaphragm	Flange block	Discharge valve/plug	Sealings	
	A	316L	316L	316L	FKM (-20°C ~120°C)	
	B	316L	316L	316L	Stainless steel frame PTFE (-40°C ~120°C)	
	E	316L	316L	316L	Modified FKM (-50°C ~120°C)	
	C	HC-276	316L	316L	FKM (-20°C ~120°C)	
	D	HC-276	316L	316L	Stainless steel frame PTFE (-40°C ~120°C)	
	F	HC-276	316L	316L	Modified FKM (-50°C ~120°C)	
	G	Tantalum	316L	316L	FKM (-20°C ~120°C) ※	
	H	Tantalum	316L	316L	Stainless steel frame PTFE (-40°C ~120°C) ※	
	I	Tantalum	316L	316L	Modified FKM (-50°C ~120°C) ※	
Low pressure side clamp flange process connection		Specifications	Drain/vent valve position	Thread	Mounting method	
	2	Female 1/4-18NPT	Upper side of flange	7/16-20UNF (F)	Horizontal	
	3	Female 1/4-18NPT	Lower side of flange	7/16-20UNF(F)	Horizontal	
Low pressure side fill oil		S	Standard silicone oil (Medium temperature: -40°C ~200°C , ambient temperature: -40°C ~85°C)			
	H	High temperature silicone oil (Medium temperature: 0°C ~315°C , ambient temperature: 0°C ~85°C)				
	L	Low temperature silicone oil (Medium temperature: -55°C ~120°C , ambient temperature: -40°C ~85°C) ※				
	E	Fluorinated oil (Medium temperature: -55°C ~85°C , ambient temperature: -40°C ~85°C) ※				
Process flange bolting		1	Bolts, nuts, and other components, 35CrMo Alloy steel			

■ Diaphragm seal options - high pressure side

Diaphragm connection position	H	Differential pressure transmitter high pressure side				
Diaphragm seal system code	N	Side mounted movable flange				
—						
Flange standard	2	HG/T-20592				
	1	EN1092-1				
	5	HG/T-20615				
	6	ANSI/ASME B16.5				
Flange diameter			Applicable standard			
	A	DN25	HG/T-20592, EN1092-1(Recommended diaphragm materials: 316L or HC. For others, please consult MICROSENSOR)			※
	J	DN40	HG/T-20592, EN1092-1			※
	B	DN50	HG/T-20592, EN1092-1			
	C	DN80	HG/T-20592, EN1092-1			

	D	DN100	HG/T-20592, EN1092-1		
	1	1inch	HG/T-20615, ANSI/ASME B16.5 (Recommended diaphragm materials: 316L or HC. For others, please consult MICROSENSOR)		※
	2	2inch	HG/T-20615, ANSI/ASME B16.5		
	3	3inch	HG/T-20615, ANSI/ASME B16.5		
	4	4inch	HG/T-20615, ANSI/ASME B16.5		
Pressure class			Applicable standard	Applicable flange diameter	
	1	PN10/PN16	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	2	PN25/PN40	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	3	PN63	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	4	PN100	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	※
	A	Class 150	HG/T-20615, ANSI/ASME B16.5	1inch, 2inch, 3inch, 4inch	
	B	Class 300	HG/T-20615, ANSI/ASME B16.5	1inch, 2inch, 3inch, 4inch	
	C	Class 600	HG/T-20615, ANSI/ASME B16.5	1inch, 2inch, 3inch, 4inch	※
Note: The maximum static pressure or overload depends on the flange pressure class					
Flange material	6	316 SS			
Blind sealing face	1	RF Raised face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class 150~Class 2500)			
	A	FM Female face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)			
	B	M Male face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)			
	C	RJ Ring joint face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN63~PN160 or Class150~Class2500)			
Note: For details about FM, M, RJ faces, please consult MICROSENSOR					
Wetted parts material		Blind	Measuring diaphragm		
	6A	316 SS	316L		
	6B	316 SS	Hastelloy C-276		
	6C	316 SS	Tantalum		
	6D	316 SS	Titanium		
	6E	316 SS	Monel		
High pressure side fill oil	S	Standard silicone oil (Medium temperature: -40℃ ~200℃ ,ambient temperature: -40℃ ~85℃)			
	H	High temperature silicone oil (Medium temperature:0℃ ~315℃ ,ambient temperature:0℃ ~85℃)			
	L	Low temperature silicone oil (Medium temperature:-55℃ ~120℃ ,ambient temperature:-40℃ ~85℃)			
	E	Fluorinated oil (Medium temperature: -55℃ ~85℃ , ambient temperature:-40℃ ~85℃)			
Factory calibration range	CAL	Provides MICROSESENSOR standard verification report according to the range, and the default linear output Contract specifies: LRL - URL, display unit*			

Options-Certificates

Description (Detailed specifications as following, multiple options or null)

Approvals

/CS1	CCS, China Classification Society, XA25PTB00010
/CS2	DNV, Det Norske Veritas, TAA00000Y1
/CS3	BV, Bureau Veritas, 77759/A0 BV
/CS4	ABS, American Bureau of Shipping, 24-2536413-PDA
/CS5	LR, Lloyd's Register, LR2520052TA
/CS6	KR, Korean Register, NAJ50160-AE001
/CS7	NK, Nippon Kaiji Kyokai, TA24376M
/CS8	RS, Russian Maritime Register of Shipping, 24.44.01.01398.266



DNV-GL



Lloyd's Register



ClassNK



Metrological certification (Russia & CIS)	/PAC	Pattern Approval Certificate of Measuring Instruments, Russia, 94159-24	
	/PBY	Pattern Approval Certificate of Measuring Instruments, Belarus, 18634	

■ Options-Specifications		Description (Detailed specifications as following, multiple options or null)			
High vacuum high temperature	/V	High vacuum and high temperature process diaphragm (if this option is selected, the accuracy will be affected and can only up to 0.2%)		※	
Verification report	/Q1	Provide data according to the customer's template requirements. Contract specifies: LRL - URL, display unit*		※	
Damping time setting	/ST	Adjustable range 0s~100s, default 0s Contract specifies: Damping time*			
Fault alarm setting	/WH	High alarm current value, 21mA			
	/WL	Low alarm current value, 3.7mA, default			
Tag plate	/PT	Supplied with 316L SS hanging tag plate Contract specifies: Tag content (max. 16 characters)*			
Integrated valve manifold	/VT	Pressure transmitter is factory assembled with MICROSENSOR valve manifold See attachment for order guide of valve manifold Contract specifies: Complete model of MICROSENSOR valve manifold*			
Leakage test report	/QD4	PN10/PN16 (class150), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report		※	
	/QD5	PN25/PN40(class300), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report		※	
	/QD6	PN63, N ₂ or air, 1 min hold. Standard Micro Sensor leak test report		※	
	/QD7	PN100(class600), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report		※	
Note: The test pressure is the same as the flange pressure class					
Bluetooth	/B	Integrated Bluetooth communication			
Diaphragm with gold plated	/J3	Single diaphragm on high pressure side(8μ)			※
	/J4	Double diaphragms on high and low pressure sides (8μ)			※
Diaphragm spraying	/T1	High pressure side single flange PTFE coating		※	
	/T7	High pressure side single flange PFA coating		※	
Diaphragm sticking	/PFA	The diaphragm is covered with PFA film (protective cover), applicable to corrosion-resistant conditions (non-vacuum, pressure ≥ 0, flange size ≥ 50mm)			※
Oil-free treatment	/CL1	Degreasing and cleaning treatment of the wetted parts		※	
Note: Fluorinated oil (Code: E) shall be selected for oxygen condition					
Lithium battery	/LD	General requirements for low copper and zinc in the lithium battery industry (Cu <0.1%, Zn <0.15%)			
Painting	/P1	PUR coating		※	
Language	/LE	English nameplate, operation manual, certificate of conformity, factory verification report.			
	/LR	English nameplate, operation manual, certificate of conformity, factory verification report.			
Delivery service	/XM	In addition to standard documents (certificate of conformity, operation manual, and factory verification report), any documentation required for project acceptance shall be specified with a detailed list upon ordering			
Accuracy	/AL6	±0.2%			
	/AL7	±0.5%			
Warranty period	/Y2	2-year warranty			
	/Y3	3-year warranty			
	/Y5	5-year warranty			

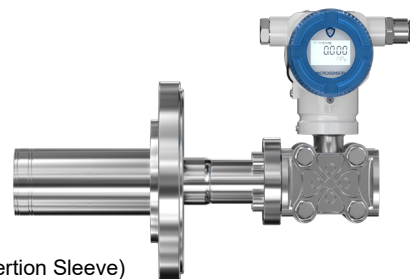
***Note:** Specifications for options shall be specified in the contract. Products marked with (※) have extended lead times.

Example : MDM7000-LT-0HP1L-2A2S1-HN-2B14616AS/D1- 【CAL: 0bar~0.4bar】

Order Guide

MDM7000-LT — — — **HM** — —

Item	Code	Description	Side Mounted Movable Flange Insertion Sleeve
MDM7000-LT	—	Monocrystalline Silicon Differential Pressure Transmitter Side Mounted Diaphragm Seal (Side Mounted Movable Flange Insertion Sleeve)	



Basic options

Application of hazardous area	1	China, Flameproof, CE23.6650 Ex db IIC T6 Gb, GB/T3836.1-2021, GB/T3836.2-2021	
	2	China, Intrinsically safe, CE23.7688X Ex ia IIC T4 Ga, GB/T3836.1-2021, GB/T3836.4-2021	
	3	China, Dust ignition protection, GYB24.1215X Ex tb III C T85°C Db, GB/T3836.1-2021, GB/T 3836.31-2021	
	4	China, Flameproof, Intrinsically safe	
	5	China, Flameproof, Dust ignition protection, Intrinsically safe	
	A	CSA, Flameproof, Dust ignition protection, CSA26CA80192884X Class I, Division 1, Group A, B, C and D T6 Class II, Division 1 Group E, F and G T80°C Class III Ex db IIC T6 Gb Class I, Zone 1, AEx db IIC T6 Gb Ex tb IIIC T80°C Db Zone 21, AEx tb IIIC T80°C Db	
	B	CSA, Intrinsically safe, CSA24CA80156531X Class I, Division 1, Groups A, B, C and D T4 Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4 Ga	
	C	CSA, Flameproof, Intrinsically safe	
	E	ATEX, Flameproof, Dust ignition protection, CSANe 25ATEX1107X II 2G Ex db IIC T6 Gb, II 2D Ex tb IIIC T80°C Db	
	F	ATEX, Intrinsically safe, CSANe 24ATEX1178X II 1G Ex ia IIC T4 Ga	
	G	ATEX, Flameproof, Intrinsically safe	
	J	IECEX, Flameproof, Dust ignition protection, IECEX CSA 25.0059X Ex db IIC T6 Gb, Ex tb IIIC T80°C Db	
	K	IECEX, Intrinsically safe, IECEX CSA 24.0045X Ex ia IIC T4 Ga	
	L	IECEX, Flameproof, Intrinsically safe	
Output signal	M	EAC, Explosion-proof, RU C-CN.AX58.B.05884/24 1Ex db IIC T6 Gb, 0Ex ia IIC T4 Ga	
	0	Non-hazardous area	
	H	4mA~20mA DC, HART	
Housing	V	1V~5V DC low power	
	R	Modbus-RS485	
	S	Cast 316L SS housing, 2 × M20×1.5 female entries	
	U	Cast 316L SS housing, 2 × 1/2 NPT female entries (no glands)	
Glands & adapters	P	Aluminum alloy housing (polyester resin coated), 2 × M20×1.5 female entries	
	N	Aluminum alloy housing (polyester resin coated), 2 × 1/2 NPT female entries (no glands)	
	0	None (No cable glands)	
	A	Single-ended flameproof plug, M20×1.5	
	B	Single-ended flameproof plug, 1/2NPT	
	1	M20×1.5 Cable gland (watertight) with plug	
	2	Non-flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug	

Note: 1/2 NPT female entries (without glands) for direct connection with explosion-proof conduits. 304 SS nameplate as standard; consult MICROSENSOR for other materials

	3	Flameproof adapter M20x1.5 (M) to 1/2 NPT (F) , with plug		316 SS	6mm~12mm	IP67
	4	Flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug		316 SS	6mm~12mm	IP67
	5	Flameproof adapter M20x1.5 (M) to G1/2 (F) , with plug		316 SS	6mm~12mm	IP67
Note: Flameproof configurations are compliant with PCEC, ATEX, and IECEx standards. Flameproof adapters are CCC Ex certified. Please consult MICROSENSOR for double-seal requirements						
Display	N	Without LCD display, explosion proof type -40℃ ~70℃ , non-explosion proof type -50℃ ~85℃				
	L	With LCD display, explosion proof type/ non-explosion proof type -40℃ ~70℃				
—						
Sensor module range		Nominal range	Minimum range	Lower (LRL)	Upper (URL)	
	2	0.4bar	0.1bar	-0.4bar	0.4bar	
	3	2.5bar	0.25bar	-2.5bar	2.5bar	
	4	10bar	1bar	-5bar	10bar	
Low pressure side wetted parts		Diaphragm	Flange block	Discharge valve/plug	Sealings	
	A	316L	316L	316L	FKM (-20℃ ~120℃)	
	B	316L	316L	316L	Stainless steel frame PTFE(-40℃ ~120℃)	
	E	316L	316L	316L	Modified FKM(-50℃ ~120℃)	
	C	HC-276	316L	316L	FKM (-20℃ ~120℃)	
	D	HC-276	316L	316L	Stainless steel frame PTFE(-40℃ ~120℃)	
	F	HC-276	316L	316L	Modified FKM(-50℃ ~120℃)	
	G	Tantalum	316L	316L	FKM (-20℃ ~120℃) ※	
	H	Tantalum	316L	316L	Stainless steel frame PTFE(-40℃ ~120℃) ※	
	I	Tantalum	316L	316L	Modified FKM(-50℃ ~120℃) ※	
Low pressure side clamp flange process connection		Specifications	Drain/vent valve position	Thread	Mounting method	
	2	Female 1/4-18NPT	Upper side of flange	7/16-20UNF (F)	Horizontal	
	3	Female 1/4-18NPT	Lower side of flange	7/16-20UNF(F)	Horizontal	
Low pressure side fill oil		S	Normal temperature silicone oil (Medium temperature: -40℃ ~200℃ ,ambient temperature: -40℃ ~85℃)			
	H	High temperature silicone oil (Medium temperature: 0℃ ~315℃ ,ambient temperature: 0℃ ~85℃)				
	L	Low temperature silicone oil (Medium temperature: -55℃ ~120℃ ,ambient temperature: -40℃ ~85℃) ※				
	E	Fluorocarbon oil (Medium temperature: -55℃ ~85℃ , ambient temperature:-40℃ ~85℃) ※				
Process flange bolting		1	Bolts, nuts, and other components, 35CrMo Alloy steel			



■ Diaphragm seal options - high pressure side

Diaphragm connection position	H	Differential pressure transmitter high pressure side	
Diaphragm seal system code	M	Side mounted movable flange insertion sleeve	
——			
Flange standard	2	HG/T-20592	
	1	EN1092-1	
	5	HG/T-20615	
	6	ANSI/ASME B16.5	
Flange diameter		Applicable standard	
	B	DN50	HG/T-20592, EN1092-1
	C	DN80	HG/T-20592, EN1092-1
	D	DN100	HG/T-20592, EN1092-1
	2	2inch	HG/T-20615, ANSI/ASME B16.5
	3	3inch	HG/T-20615, ANSI/ASME B16.5
	4	4inch	HG/T-20615, ANSI/ASME B16.5

Pressure class			Applicable standard	Applicable flange diameter	
	1	PN10/PN16	HG/T-20592, EN1092-1	DN50, DN80, DN100	
	2	PN25/PN40	HG/T-20592, EN1092-1	DN50, DN80, DN100	
	3	PN63	HG/T-20592, EN1092-1	DN50, DN80, DN100	
	4	PN100	HG/T-20592, EN1092-1	DN50, DN80, DN100	※
	A	Class 150	HG/T-20615, ANSI/ASME B16.5	2inch, 3inch, 4inch	
	B	Class 300	HG/T-20615, ANSI/ASME B16.5	2inch, 3inch, 4inch	
	C	Class 600	HG/T-20615, ANSI/ASME B16.5	2inch, 3inch, 4inch	※

Note: The maximum static pressure or overload depends on the flange pressure class

Flange material	6	316 SS	
Blind sealing face	1	RF Raised face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class 150~Class 2500)	
	A	FM Female face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)	
	B	M Male face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)	
	C	RJ Ring joint face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN63~PN160 or Class150~Class2500)	

Note: For details about FM, M, RJ faces, please consult MICROSENSOR

Insertion sleeve diameter			Applicable flange diameter
	4	46mm	DN50, 2inch
	6	66mm	DN80, 3inch
	7	77mm	DN100, 4inch

Insertion sleeve length	A	50mm
	B	100mm
	C	150mm
	D	200mm

Insertion sleeve material	6	316 SS
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Wetted parts material	Blind	Insertion sleeve	Measuring diaphragm	
6A	316 SS	316 SS	316L	
6B	316 SS	316 SS	Hastelloy C-276	
6C	316 SS	316 SS	Tantalum	※
6D	316 SS	316 SS	Titanium	※
6E	316 SS	316 SS	Monel	※

High pressure side fill oil	S	Standard silicone oil (Medium temperature: -40°C ~200°C ,ambient temperature: -40°C ~85°C)		
	H	High temperature silicone oil (Medium temperature:0°C ~315°C ,ambient temperature:0°C ~85°C)		
	L	Low temperature silicone oil (Medium temperature:-55°C ~120°C ,ambient temperature:-40°C ~85°C)		
	E	Fluorinated oil (Medium temperature: -55°C ~85°C , ambient temperature:-40°C ~85°C)		

Factory calibration range	CAL	Provides MICROSENSOR standard verification report according to the range, and the default linear output Contract specifies: LRL - URL, display unit*		
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Options-Certificates		Description (Detailed specifications as following, multiple options or null)	
Approvals	/CS1	CCS, China Classification Society, XA25PTB00010	
	/CS2	DNV, Det Norske Veritas, TAA00000Y1	
	/CS3	BV, Bureau Veritas, 77759/A0 BV	
	/CS4	ABS, American Bureau of Shipping, 24-2536413-PDA	
	/CS5	LR, Lloyd's Register, LR2520052TA	
	/CS6	KR, Korean Register, NAJ50160-AE001	
	/CS7	NK, Nippon Kaiji Kyokai, TA24376M	
	/CS8	RS, Russian Maritime Register of Shipping, 24.44.01.01398.266	
Metrological certification (Russia & CIS)	/PAC	Pattern Approval Certificate of Measuring Instruments, Russia, 94159-24	
	/PBY	Pattern Approval Certificate of Measuring Instruments, Belarus, 18634	

Options-Specifications		Description (Detailed specifications as following, multiple options or null)	
High vacuum high temperature	/V	High vacuum and high temperature process diaphragm (if this option is selected, the accuracy will be affected and can only up to 0.2%)	※
Verification report	/Q1	Provide the MICROSENSOR standard verification report according to the range, default linear output Contract specifies: LRL - URL, display unit*	※
Note: Standard Micro Sensor format. For custom formats, please select this option and provide a template.			
Damping time setting	/ST	Adjustable range 0s~100s, default 0s Contract specifies: Damping time*	
Fault alarm setting	/WH	High alarm current value, 21mA	
	/WL	Low alarm current value, 3.7mA, default	
Tag plate	/PT	Supplied with 316L SS hanging tag plate Contract specifies: Identification number, not exceeding 16 characters	
Integrated valve manifold	/VT	Pressure transmitter is factory assembled with MICROSENSOR valve manifold See attachment for order guide of valve manifold Contract specifies: Tag content (max. 16 characters)*	
Leakage test report	/QD4	PN10/PN16 (class150), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD5	PN25/PN40 (class300), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD6	PN63, N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD7	PN100 (class600), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
Note: The test pressure is the same as the flange pressure class			
Bluetooth	/B	Integrated Bluetooth communication	
Diaphragm with gold plated	/J3	Single diaphragm on high pressure side (8μ)	 ※
	/J4	Double diaphragms on high and low pressure sides (8μ)	※
Diaphragm spraying	/T3	High pressure side single flange PTFE coating	※
	/T9	High pressure side single flange PFA coating	※
Oil-free treatment	/CL1	Degreasing and cleaning treatment of the wetted parts	※
Note: Fluorinated oil (Code: E) shall be selected for oxygen condition			
Lithium battery	/LD	General requirements for low copper and zinc in the lithium battery industry (Cu <0.1%, Zn <0.15%)	
Painting	/P1	PUR coating	※

Language	/LE	English nameplate, operation manual, certificate of conformity, factory verification report.
	/LR	Russian nameplate, operation manual, certificate of conformity, factory verification report.
Delivery service	/XM	In addition to standard documents (certificate of conformity, operation manual, and factory verification report), any documentation required for project acceptance shall be specified with a detailed list upon ordering
Accuracy	/AL6	±0.2%
	/AL7	±0.5%
Warranty period	/Y2	2-year warranty
	/Y3	3-year warranty
	/Y5	5-year warranty

***Note:** Specifications for options shall be specified in the contract. Products marked with (※) have extended lead times.

Example: MDM7000-LT-1HP1L-2A1S1-HM-2B14614A66AS/D1- 【CAL: 0bar~0.4bar】

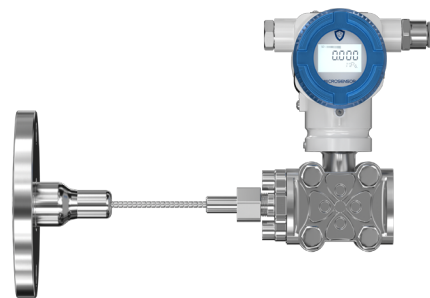
|| Order Guide ||

MDM7000-LT — □□□□ — □ — HF — □□□□□□□□ — □□□□□

Body

Remote Fixed Flange Diaphragm

Item	Code	Description
MDM7000-LT	—	Monocrystalline Silicon Differential Pressure Transmitter With Remote Diaphragm Seal (Remote Fixed Flange)



■ Basic options

Application of hazardous area	1	China, Flameproof, CE23.6650 Ex db IIC T6 Gb, GB/T3836.1-2021, GB/T3836.2-2021	
	2	China, Intrinsically safe, CE23.7688X Ex ia IIC T4 Ga, GB/T3836.1-2021, GB/T3836.4-2021	
	3	China, Dust ignition protection, GYB24.1215X Ex tb III C T85°C Db, GB/T3836.1-2021, GB/T 3836.31-2021	
	4	China, Flameproof, Intrinsically safe	
	5	China, Flameproof, Dust ignition protection, Intrinsically safe	
	A	CSA, Flameproof, Dust ignition protection, CSA26CA80192884X Class I, Division 1, Group A, B, C and D T6 Class II, Division 1 Group E, F and G T80°C Class III Ex db IIC T6 Gb Class I, Zone 1, AEx db IIC T6 Gb Ex tb IIIC T80°C Db Zone 21, AEx tb IIIC T80°C Db	
	B	CSA, Intrinsically safe, CSA24CA80156531X Class I, Division 1, Groups A, B, C and D T4 Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4 Ga	
	C	CSA, Flameproof, Intrinsically safe	
	E	ATEX, Flameproof, Dust ignition protection, CSANe 25ATEX1107X II 2G Ex db IIC T6 Gb, II 2D Ex tb IIIC T80°C Db	
	F	ATEX, Intrinsically safe, CSANe 24ATEX1178X II 1G Ex ia IIC T4 Ga	
	G	ATEX, Flameproof, Intrinsically safe	
	J	IECEX, Flameproof, Dust ignition protection, IECEX CSA 25.0059X Ex db IIC T6 Gb, Ex tb IIIC T80°C Db	
	K	IECEX, Intrinsically safe, IECEX CSA 24.0045X Ex ia IIC T4 Ga	
	L	IECEX, Flameproof, Intrinsically safe	
	M	EAC, Explosion-proof, RU C-CN.AXK58.B.05884/24 1Ex db IIC T6 Gb, 0Ex ia IIC T4 Ga	
	0	Non-hazardous area	
Output signal	H	4mA~20mA DC, HART	
	V	1V~5V DC low power	
	R	Modbus-RS485	
Housing	S	Cast 316L SS housing, 2 × M20×1.5 female entries	
	U	Cast 316L SS housing, 2 × 1/2 NPT female entries (no glands)	
	P	Aluminum alloy housing (polyester resin coated), 2 × M20×1.5 female entries	
	N	Aluminum alloy housing (polyester resin coated), 2 × 1/2 NPT female entries (no glands)	

Note: 1/2 NPT female entries (without glands) for direct connection with explosion-proof conduits. 304 SS nameplate as standard; consult MICROSENSOR for other materials

Glands & adapters	Specification	Material	Applicable wire diameter	IP rating
0	None (No cable glands)			
A	Single-ended flameproof plug, M20×1.5	316 SS		
B	Single-ended flameproof plug, 1/2NPT	316 SS		
1	M20×1.5 Cable gland (watertight) with plug	PVC	6mm~12mm	IP67
2	Non-flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug	316 SS	6mm~8mm	IP67

	3	Flameproof adapter M20x1.5 (M) to 1/2 NPT (F) , with plug		316 SS	6mm~12mm	IP67
	4	Flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug		316 SS	6mm~12mm	IP67
	5	Flameproof adapter M20x1.5 (M) to G1/2 (F) , with plug		316 SS	6mm~12mm	IP67
Note: Flameproof configurations are compliant with PCEC, ATEX, and IECEx standards. Flameproof adapters are CCC Ex certified. Please consult MICROSENSOR for double-seal requirements.						
Display	N	Without LCD display, explosion proof type -40°C ~70°C , non-explosion proof type -50°C ~85°C				
	L	With LCD display, explosion proof type/ non-explosion proof type -40°C ~70°C				
—						
Sensor module range		Nominal range	Minimum range	Lower (LRL)	Upper (URL)	
	2	0.4bar	0.1bar	-0.4bar	0.4bar	
	3	2.5bar	0.25bar	-2.5bar	2.5bar	
	4	10bar	1bar	-5bar	10bar	
Low pressure side wetted parts		Diaphragm	Flange block	Discharge valve/plug	Sealings	
	A	316L	316L	316L	FKM (-20°C ~120°C)	
	B	316L	316L	316L	Stainless steel frame PTFE(-40°C ~120°C)	
	E	316L	316L	316L	Modified FKM(-50°C ~120°C)	
	C	HC-276	316L	316L	FKM(-20°C ~120°C)	
	D	HC-276	316L	316L	Stainless steel frame PTFE(-40°C ~120°C)	
	F	HC-276	316L	316L	Modified FKM(-50°C ~120°C)	
	G	Tantalum	316L	316L	FKM(-20°C ~120°C) ※	
	H	Tantalum	316L	316L	Stainless steel frame PTFE(-40°C ~120°C) ※	
	I	Tantalum	316L	316L	Modified FKM(-50°C ~120°C) ※	
Low pressure side clamp flange process connection		Specifications	Drain/vent valve position	Thread	Mounting method	
	2	Female 1/4-18NPT	Upper side of flange	7/16-20UNF (F)	Horizontal	
	3	Female 1/4-18NPT	Lower side of flange	7/16-20UNF(F)	Horizontal	
Low pressure side fill oil		S	Standard silicone oil (Medium temperature: -40°C ~200°C , ambient temperature: -40°C ~85°C)			
	H	High temperature silicone oil (Medium temperature: 0°C ~315°C , ambient temperature: 0°C ~85°C)				
	L	Low temperature silicone oil (Medium temperature: -55°C ~120°C , ambient temperature: -40°C ~85°C) ※				
	E	Fluorinated oil (Medium temperature: -55°C ~85°C , ambient temperature:-40°C ~85°C) ※				
Process flange bolting		1	Bolts, nuts, and other components, 35CrMo Alloy steel			



■ Diaphragm seal options - high pressure side

Diaphragm connection position	H	Differential pressure transmitter high pressure side				
Diaphragm seal system code	F	Remote fixed flange				
—						
Flange standard	2	HG/T-20592				
	1	EN1092-1				
	5	HG/T-20615				
	6	ANSI/ASME B16.5				
Flange diameter			Applicable standard			
	A	DN25	HG/T-20592, EN1092-1(Recommended diaphragm materials: 316L or HC. For others, please consult MICROSENSOR)			※
	J	DN40	HG/T-20592, EN1092-1			※
	B	DN50	HG/T-20592, EN1092-1			
	C	DN80	HG/T-20592, EN1092-1			
	D	DN100	HG/T-20592, EN1092-1			

	1	1inch	HG/T-20615, ANSI/ASME B16.5 (Recommended diaphragm materials: 316L or HC. For others, please consult MICROSENSOR)		※
	2	2inch	HG/T-20615, ANSI/ASME B16.5		
	3	3inch	HG/T-20615, ANSI/ASME B16.5		
	4	4inch	HG/T-20615, ANSI/ASME B16.5		
Pressure class			Applicable standard	Applicable flange diameter	
	1	PN10/PN16	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	2	PN25/PN40	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	3	PN63	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	4	PN100	HG/T-20592, EN1092-1	DN25, DN40, DN50, DN80, DN100	
	A	Class 150	HG/T-20615, ANSI/ASME B16.5	1inch, 2inch, 3inch, 4inch	
	B	Class 300	HG/T-20615, ANSI/ASME B16.5	1inch, 2inch, 3inch, 4inch	
	C	Class 600	HG/T-20615, ANSI/ASME B16.5	1inch, 2inch, 3inch, 4inch	
※					
Note: The maximum static pressure or overload depends on the flange pressure class					
Flange material	6	316 SS			
Flange sealing face	1	RF Raised face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class 150~Class 2500)			
	A	FM Female face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)			
	B	M Male face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)			
	C	RJ Ring joint face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN63~PN160 or Class150~Class2500)			
Note: For details about FM, M, RJ faces, please consult MICROSENSOR					
Wetted parts material		Flange	Measuring diaphragm		
	6A	316 SS	316L		
	6B	316 SS	Hastelloy C-276		
	6C	316 SS	Tantalum		
	6D	316 SS	Titanium		
	6E	316 SS	Monel		
Capillary connection location	K	Rear connection			
Capillary type	U	3.5mm OD (or 1/8 inch), armored 316L SS, PVC gray sheath			
	L	3.5mm OD (or 1/8 inch), armored 316L SS, stainless steel bellows sheath			
Capillary length	1	1m			
	2	2m			
	3	3m			
	4	4m			
	5	5m			
	6	6m	For high and low-temperature conditions, flanges of DN80 or above are recommended		
	7	7m	For high and low-temperature conditions, flanges of DN80 or above are recommended		
	8	8m	For high and low-temperature conditions, flanges of DN80 or above are recommended		
	9	9m	For high and low-temperature conditions, flanges of DN80 or above are recommended		
	A	10m	For high and low-temperature conditions, flanges of DN80 or above are recommended		
Note: The part beyond the length will be selected according to the next level of meters.					

High pressure side fill oil	S	Standard silicone oil (Medium temperature : -40°C ~200°C , ambient temperature: -40°C ~85°C)	
	H	High temperature silicone oil (Medium temperature: 0°C ~315°C , ambient temperature: 0°C ~85°C)	
	L	Low temperature silicone oil (Medium temperature: -55°C ~120°C , ambient temperature: -40°C ~85°C)	※
	E	Fluorinated oil (Medium temperature: -55°C ~85°C , ambient temperature:-40°C ~85°C)	※
Factory calibration range	CAL	Provides MICROSENSOR standard verification report according to the range, and the default linear output Contract specifics: LRL - URL, display unit*	

Options-Certificates		Description (Detailed specifications as following, multiple options or null)	
Approvals	/CS1	CCS, China Classification Society, XA25PTB00010	
	/CS2	DNV, Det Norske Veritas, TAA00000Y1	
	/CS3	BV, Bureau Veritas, 77759/A0 BV	
	/CS4	ABS, American Bureau of Shipping, 24-2536413-PDA	
	/CS5	LR, Lloyd's Register, LR2520052TA	
	/CS6	KR, Korean Register, NAJ50160-AE001	
	/CS7	NK, Nippon Kaiji Kyokai, TA24376M	
	/CS8	RS, Russian Maritime Register of Shipping, 24.44.01.01398.266	
Metrological certification (Russia & CIS)	/PAC	Pattern Approval Certificate of Measuring Instruments, Russia, 94159-24	
	/PBY	Pattern Approval Certificate of Measuring Instruments, Belarus, 18634	

Options-Specifications		Description (Detailed specifications as following, multiple options or null)	
High vacuum high temperature	/V	High vacuum and high temperature process diaphragm (if this option is selected, the accuracy will be affected and can only up to 0.2%)	※
Mounting bracket accessories	/G10	Standard L-bracket, 316 SS	
	/G11	Standard L-bracket, Q235 Carbon steel	
	/G12	Standard L-bracket, 316L SS	
Verification report	/Q1	Provide data according to the customer's template requirements. Contract specifics: LRL - URL, display unit*	※
Note: Standard Micro Sensor format. For custom formats, please select this option and provide a template.			
Damping time setting	/ST	Adjustable range 0s~100s, default 0s Contract specifics: Damping time*	
It alarm setting	/WH	High alarm current value, 21mA	
	/WL	Low alarm current value, 3.7mA , default	
Tag plate	/PT	Supplied with 316L SS hanging tag plate Contract specifics: Tag content (max. 16 characters)*	
Integrated valve manifold	/VT	Pressure transmitter is factory assembled with MICROSENSOR valve manifold See attachment for order guide of valve manifold Contract specifics: Complete model of MICROSENSOR valve manifold**	
Leakage test report	/QD4	PN10/PN16 (class150), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD5	PN25/PN40 (class300), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD6	PN63, N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD7	PN100 (class600), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※

Note: The test pressure is the same as the flange pressure class

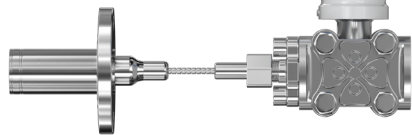
Bluetooth	/B	Integrated Bluetooth communication		
Diaphragm with gold plated	/J3	Single diaphragm on high pressure side (8μ)		※
	/J4	Double diaphragms on high and low pressure sides (8μ)		※
Diaphragm spraying	/T1	High pressure side single flange PTFE coating		※
	/T7	High pressure side single flange PFA coating		※
Diaphragm sticking	/PFA	The diaphragm is covered with PFA film (protective cover), applicable to corrosion-resistant conditions (non-vacuum, pressure ≥ 0, flange size ≥ 50mm)		※
Oil-free treatment	/CL1	Degreasing and cleaning treatment of the wetted parts		※
Note: Fluorinated oil (Code: E) shall be selected for oxygen condition				
Lithium battery	/LD	General requirements for low copper and zinc in the lithium battery industry (Cu <0.1%, Zn <0.15%)		
Painting	/P1	PUR coating		※
Language	/LE	English nameplate, operation manual, certificate of conformity, factory verification report.		
	/LR	Russian nameplate, operation manual, certificate of conformity, factory verification report.		
Delivery service	/XM	In addition to standard documents (certificate of conformity, operation manual, and factory verification report), any documentation required for project acceptance shall be specified with a detailed list upon ordering		
Accuracy	/AL6	±0.2%		
	/AL7	±0.5%		
Warranty period	/Y2	2-year warranty		
	/Y3	3-year warranty		
	/Y5	5-year warranty		

***Note:** Specifications for options shall be specified in the contract. Products marked with (※) have extended lead times.

Example: MDM7000-LT-1HP1L-2A1S1-HF-2B1614AKU3S/D1- 【CAL: 0bar~0.4bar】

|| Order Guide ||

MDM7000-LT — □□□□□ — □ — HE — □□□□□□□□ — □□□□□

Body		Remote Fixed Flange Insertion Sleeve Diaphragm				
Item	Code	Description				
MDM7000-LT	—	Monocrystalline Silicon Differential Pressure Transmitter With Remote Diaphragm Seal (Remote Fixed Flange Insertion Sleeve)				
■ Basic options						
Application of hazardous area	1	China, Flameproof, CE23.6650 Ex db IIC T6 Gb, GB/T3836.1-2021, GB/T3836.2-2021				
	2	China, Intrinsically safe, CE23.7688X Ex ia IIC T4 Ga, GB/T3836.1-2021, GB/T3836.4-2021				
	3	China, Dust ignition protection, GYB24.1215X Ex tb III C T85°C Db, GB/T3836.1-2021, GB/T 3836.31-2021				
	4	China, Flameproof, Intrinsically safe				
	5	China, Flameproof, Dust ignition protection, Intrinsically safe				
	A	CSA, Flameproof, Dust ignition protection, CSA26CA80192884X Class I, Division 1, Group A, B, C and D T6 Class II, Division 1 Group E, F and G T80°C Class III Ex db IIC T6 Gb Class I, Zone 1, AEx db IIC T6 Gb Ex tb IIIC T80°C Db Zone 21, AEx tb IIIC T80°C Db				※
	B	CSA, Intrinsically safe, CSA24CA80156531X Class I, Division 1, Groups A, B, C and D T4 Ex ia IIC T4 Ga Class I, Zone 0, AEx ia IIC T4 Ga				
	C	CSA, Flameproof, Intrinsically safe				※
	E	ATEX, Flameproof, Dust ignition protection, CSANe 25ATEX1107X II 2G Ex db IIC T6 Gb, II 2D Ex tb IIIC T80°C Db				
	F	ATEX, Intrinsically safe, CSANe 24ATEX1178X II 1G Ex ia IIC T4 Ga				
	G	ATEX, Flameproof, Intrinsically safe				
	J	IECEX, Flameproof, Dust ignition protection, IECEX CSA 25.0059X Ex db IIC T6 Gb, Ex tb IIIC T80°C Db				
	K	IECEX, Intrinsically safe, IECEX CSA 24.0045X Ex ia IIC T4 Ga				
	L	IECEX, Flameproof, Intrinsically safe				
	M	EAC, Explosion-proof, RU C-CN.AXK58.B.05884/24 1Ex db IIC T6 Gb, 0Ex ia IIC T4 Ga				
	0	Non-hazardous area				
Output signal	H	4mA~20mA DC, HART				
	V	1V~5V DC low power				
	R	Modbus-RS485				
Housing	S	Cast 316L SS housing, 2 × M20×1.5 female entries				
	U	Cast 316L SS housing, 2 × 1/2 NPT female entries (no glands)				
	P	Aluminum alloy housing (polyester resin coated), 2 × M20×1.5 female entries				
	N	Aluminum alloy housing (polyester resin coated), 2 × 1/2 NPT female entries (no glands)				
Note: 1/2 NPT female entries (without glands) for direct connection with explosion-proof conduits. 304 SS nameplate as standard; consult MICROSENSOR for other materials						
Glands & adapters		Specification	Material	Applicable wire diameter	IP rating	
	0	None (No cable glands)				
	A	Single-ended flameproof plug, M20×1.5	316 SS			
	B	Single-ended flameproof plug, 1/2NPT	316 SS			
	1	M20×1.5 Cable gland (watertight) with plug	PVC	6mm~12mm	IP67	
	2	Non-flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug	316 SS	6mm~8mm	IP67	

	3	Flameproof adapter M20x1.5 (M) to 1/2 NPT (F) , with plug	316 SS	6mm~12mm	IP67
	4	Flameproof adapter M20x1.5 (M) to M20x1.5 (F) , with plug	316 SS	6mm~12mm	IP67
	5	Flameproof adapter M20x1.5 (M) to G1/2 (F) , with plug	316 SS	6mm~12mm	IP67
Note: Flameproof configurations are compliant with PCEC, ATEX, and IECEx standards. Flameproof adapters are CCC Ex certified. Please consult MICROSENSOR for double-seal requirements.					
Display	N	Without LCD display, explosion proof type -40℃ ~70℃ , non-explosion proof type -50℃ ~85℃			
	L	With LCD display, explosion proof type/ non-explosion proof type -40℃ ~70℃			
Sensor module range		Nominal range	Minimum range	Lower (LRL)	Upper (URL)
	2	0.4bar	0.1bar	-0.4bar	0.4bar
	3	2.5bar	0.25bar	-2.5bar	2.5bar
	4	10bar	1bar	-5bar	10bar
Low pressure side wetted parts		Diaphragm	Flange block	Discharge valve/plug	Sealings
	A	316L	316L	316L	FKM(-20℃ ~120℃)
	B	316L	316L	316L	Stainless steel frame PTFE(-40℃ ~120℃)
	E	316L	316L	316L	Modified FKM(-50℃ ~120℃)
	C	HC-276	316L	316L	FKM(-20℃ ~120℃)
	D	HC-276	316L	316L	Stainless steel frame PTFE(-40℃ ~120℃)
	F	HC-276	316L	316L	Modified FKM(-50℃ ~120℃)
	G	Tantalum	316L	316L	FKM(-20℃ ~120℃) ※
	H	Tantalum	316L	316L	Stainless steel frame PTFE(-40℃ ~120℃) ※
	I	Tantalum	316L	316L	Modified FKM(-50℃ ~120℃) ※
Low pressure side clamp flange process connection		Specifications	Drain/vent valve position	Thread	Mounting method
	2	Female 1/4-18NPT	Upper side of flange	7/16-20UNF (F)	Horizontal
	3	Female 1/4-18NPT	Lower side of flange	7/16-20UNF(F)	Horizontal
Low pressure side fill oil	S	Standard silicone oil (Medium temperature: -40℃ ~200℃ , ambient temperature: -40℃ ~85℃)			
	H	High temperature silicone oil (Medium temperature: 0℃ ~315℃ , ambient temperature: 0℃ ~85℃)			
	L	Low temperature silicone oil (Medium temperature: -55℃ ~120℃ , ambient temperature:-40℃ ~85℃) ※			
	E	Fluorinated oil (Medium temperature: -55℃ ~85℃ , ambient temperature:-40℃ ~85℃) ※			
Process flange bolting	1	Bolts, nuts, and other components, 35CrMo Alloy steel			



■ Diaphragm seal options - high pressure side

Diaphragm connection position	H	Differential pressure transmitter high pressure side	
Diaphragm seal system code	E	Remote fixed flange insertion sleeve	
	—		
Flange standard	2	HG/T-20592	
	1	EN1092-1	
	5	HG/T-20615	
	6	ANSI/ASME B16.5	
Flange diameter		Applicable standard	
	B	DN50	HG/T-20592, EN1092-1
	C	DN80	HG/T-20592, EN1092-1
	D	DN100	HG/T-20592, EN1092-1

	2	2inch	G/T-20615, ANSI/ASME B16.5	
	3	3inch	HG/T-20615, ANSI/ASME B16.5	
	4	4inch	HG/T-20615, ANSI/ASME B16.5	
Pressure class			Applicable standard	Applicable flange diameter
	1	PN10/PN16	HG/T-20592, EN1092-1	DN50, DN80, DN100
	2	PN25/PN40	HG/T-20592, EN1092-1	DN50, DN80, DN100
	3	PN63	HG/T-20592, EN1092-1	DN50, DN80, DN100
	4	PN100	HG/T-20592, EN1092-1	DN50, DN80, DN100 ※
	A	Class 150	HG/T-20615, ANSI/ASME B16.5	2inch, 3inch, 4inch
	B	Class 300	HG/T-20615, ANSI/ASME B16.5	2inch, 3inch, 4inch
	C	Class 600	HG/T-20615, ANSI/ASME B16.5	2inch, 3inch, 4inch ※
Note: The maximum static pressure or overload depends on the flange pressure class				
Flange material	6	316 SS		
Flange sealing face	1	RF Raised face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class 150~Class 2500)		
	A	FM Female face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)		
	B	M Male face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN10~PN160 or Class300~Class2500)		
	C	RJ Ring joint face (Flange diameter DN25~DN100 or 1in~4in, flange pressure PN63~PN160 or Class150~Class2500)		
Note: For details about FM, M, RJ faces, please consult MICROSENSOR				
Insertion sleeve diameter			Applicable flange diameter	
	4	46mm	DN50, 2inch	
	6	66mm	DN80, 3inch	
	7	77mm	DN100, 4inch	
Insertion sleeve length	A	50mm		
	B	100mm		
	C	150mm		
	D	200mm		
Insertion sleeve material	6	316 SS		
Wetted parts material		Flange	Measuring diaphragm	
	6A	316 SS	316L	
	6B	316 SS	Hastelloy C-276	
	6C	316 SS	Tantalum ※	
	6D	316 SS	Titanium ※	
	6E	316 SS	Monel ※	
Capillary connection location	K	Rear connection		
Capillary type	U	3.5mm OD (or 1/8 inch), armored 316L SS, PVC gray sheath		
	L	3.5mm OD (or 1/8 inch), armored 316L SS, stainless steel bellows sheath		
Capillary length			S-46mm	
	1	1m	M-66mm	
			L-77mm	
			S-46mm	
	2	2m	M-66mm	
			L-77mm	

3	3m	S-46mm	
		M-66mm	
		L-77mm	
4	4m	S-46mm	
		M-66mm	
		L-77mm	
5	5m	S-46mm	
		M-66mm	
		L-77mm	
6	6m	M-66mm	※
		L-77mm	※
7	7m	M-66mm	※
		L-77mm	※
8	8m	M-66mm	※
		L-77mm	※
9	9m	M-66mm	※
		L-77mm	※
A	10m	M-66mm	※
		L-77mm	※

Note: For high and low-temperature conditions with capillary lengths of 6m-10m, flanges of DN80 or above are recommended.; the part beyond the length will be selected according to the next level of meters.

High pressure side fill oil	S	Standard silicone oil (Medium temperature: -40°C ~200°C , ambient temperature: -40°C ~85°C)	
	H	High temperature silicone oil (Medium temperature: 0°C ~315°C , ambient temperature: 0°C ~85°C)	
	L	Low temperature silicone oil (Medium temperature: -55°C ~120°C , ambient temperature: -40°C ~85°C)	※
	E	Fluorinated oil (Medium temperature: -55°C ~85°C , ambient temperature: -40°C ~85°C)	※
Factory calibration range	CAL	Provides MICROSENSOR standard verification report according to the range, and the default linear output Contract specifies: LRL - URL, display unit*	

Options-Certificates		Description (Detailed specifications as following, multiple options or null)	
Approvals	/CS1	CCS, China Classification Society, XA25PTB00010	
	/CS2	DNV, Det Norske Veritas, TAA00000Y1	
	/CS3	BV, Bureau Veritas, 77759/A0 BV	
	/CS4	ABS, American Bureau of Shipping, 24-2536413-PDA	
	/CS5	LR, Lloyd's Register, LR2520052TA	
	/CS6	KR, Korean Register, NAJ50160-AE001	
	/CS7	NK, Nippon Kaiji Kyokai, TA24376M	
	/CS8	RS, Russian Maritime Register of Shipping, 24.44.01.01398.266	
Metrological certification (Russia & CIS)	/PAC	Pattern Approval Certificate of Measuring Instruments, Russia, 94159-24	
	/PBX	Pattern Approval Certificate of Measuring Instruments, Belarus, 18634	

Options-Specifications		Description (Detailed specifications as following, multiple options or null)	
High vacuum high temperature	/V	High vacuum and high temperature process diaphragm (if this option is selected, the accuracy will be affected and can only up to 0.2%)	※
Mounting bracket accessories	/G10	Standard L-bracket, 316 SS	
	/G11	Standard L-bracket, Q235 Carbon steel	
	/G12	Standard L-bracket, 316L SS	
Verification report	/Q1	Provide data according to the customer's template requirements. Contract specifies: LRL - URL, display unit*	※
Note: Standard Micro Sensor format. For custom formats, please select this option and provide a template.			
Damping time setting	/ST	Adjustable range 0s~100s, default 0s Contract specifies: Damping time*	
Fault alarm setting	/WH	High alarm current value, 21mA	
	/WL	Low alarm current value, 3.7mA, default	
Tag plate	/PT	Supplied with 316L SS hanging tagplate Contract specifies: Tag content (max. 16 characters)*	
Integrated valve manifold	/VT	Pressure transmitter is factory assembled with MICROSENSOR valve manifold See attachment for order guide of valve manifold Contract specifies: Complete model of MICROSENSOR valve manifold*	
Leakage test report	/QD4	PN10/PN16 (class150), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD5	PN25/PN40 (class300), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD6	PN63, N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
	/QD7	PN100 (class600), N ₂ or air, 1 min hold. Standard Micro Sensor leak test report	※
Note: The test pressure is the same as the flange pressure class			
Bluetooth	/B	Integrated Bluetooth communication	
Diaphragm with gold plated	/J3	Single diaphragm on high pressure side (8μ)	
	/J4	Double diaphragms on high and low pressure sides (8μ)	
Diaphragm spraying	/T3	High pressure side single insertion sleeve PTFE coating	※
	/T9	High pressure side single insertion sleeve PFA coating	※
Oil-free treatment	/CL1	Degreasing and cleaning treatment of the wetted parts	※
Note: Fluorinated oil (Code: E) shall be selected for oxygen condition.			
Lithium battery	/LD	General requirements for low copper and zinc in the lithium battery industry (Cu <0.1%, Zn <0.15%)	
Language	/LE	English nameplate, operation manual, certificate of conformity, factory verification report.	
	/LR	Russian nameplate, operation manual, certificate of conformity, factory verification report.	
Delivery service	/XM	In addition to standard documents (certificate of conformity, operation manual, and factory verification report), any documentation required for project acceptance shall be specified with a detailed list upon ordering	
Accuracy	/AL6	±0.2%	
	/AL7	±0.5%	
Warranty period	/Y2	2-year warranty	
	/Y3	3-year warranty	
	/Y5	5-year warranty	

***Note:** Specifications for options shall be specified in the contract. Products marked with (※) have extended lead times.

Example: MDM7000-LT-1HP1L-2A1S1-HE-2B1614A6AKU3S/G1- 【CAL: 0bar~0.4bar】