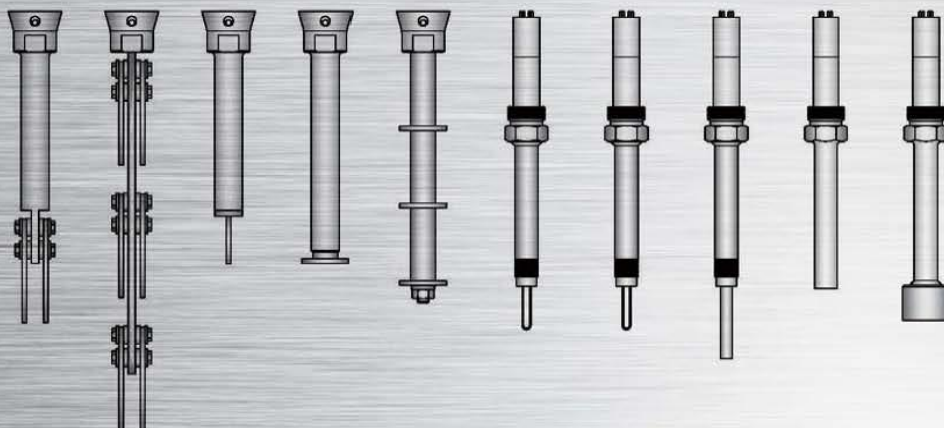


If it concerns corrosion,



It concerns us

PIPELINE INTERNAL CORROSION MONITORING SYSTEM

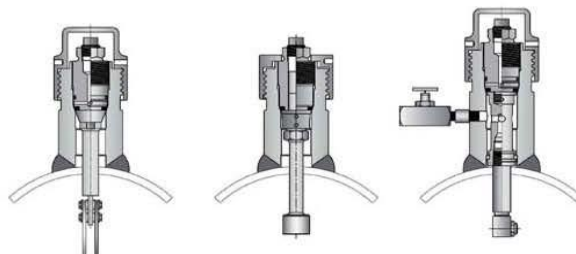


GLOAZURE CO., LTD
www.gloazure.com

GLOAZURE CO.,LTD

Since 2007,

We have been producing Pipeline Internal Corrosion Monitoring Systems and Chemical Injection & Sampling System.



Corrosion monitoring system?



Coupon and Probe are conventionally and commonly used in high/low pressure flowlines and vessels in order to detect information on internal surface corrosion. Installation and retrieving these devices under pressure can be assured by Retrifer tool. Gloazure's Retrifer tool provides a safe and effective operation in retrieving coupons and probes under full operating pressure.

Quality Assurance / HSE Program

Gloazure's products are manufactured and inspection & test in accordance our internal restrcit quality program based on Quality Manual – ISO 9001 and ISO 14001 which were achieved in 2008 and 2010 repectively



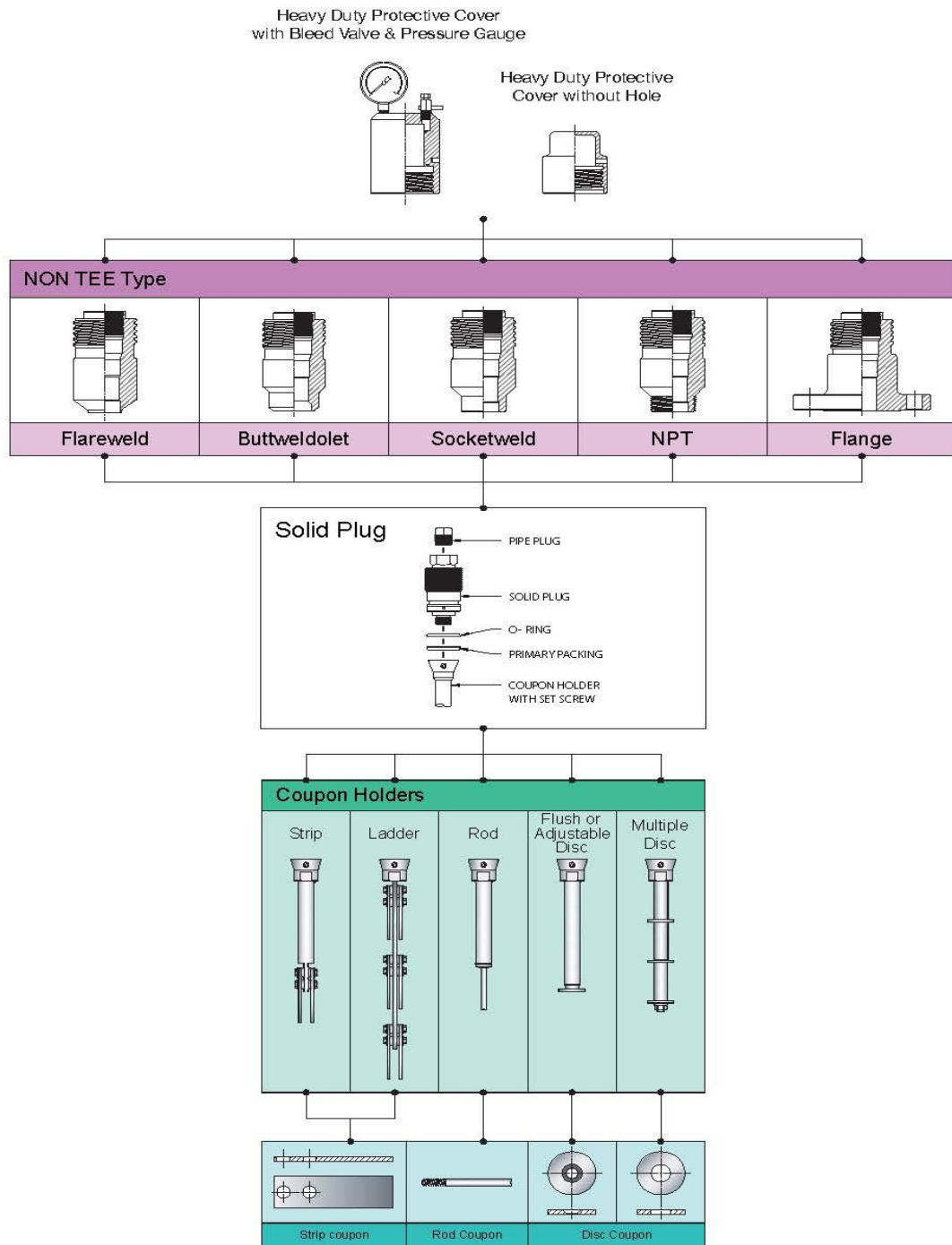
Products ranges for high pressure/ low pressure flowlines

- Corrosion coupon assembly
- Corrosion probe assembly (ER and LPR probe)
- Hydrogen probe assembly
- Bio probe assembly
- Sand probe assembly
- Chemical injection quill & sampling system



Corrosion Coupon System

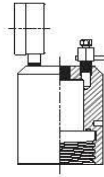
2 inch High Pressure Access Fitting System



Corrosion Probe System

2 inch High Pressure Access Fitting System

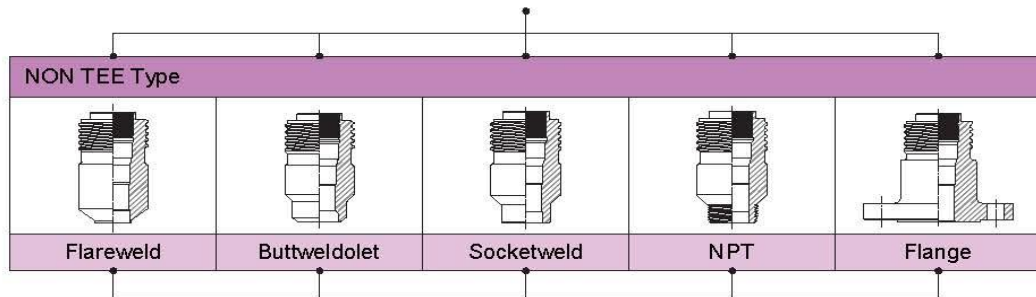
Heavy Duty Protective Cover with
Bleed Valve & Pressure Gauge



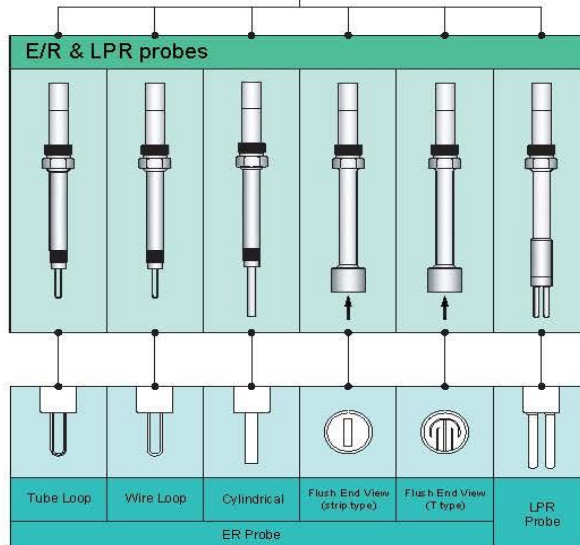
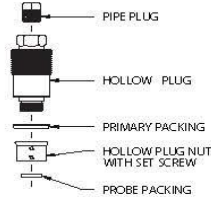
Heavy Duty Protective
Cover with Hole



Heavy Duty Protective
Cover without Hole



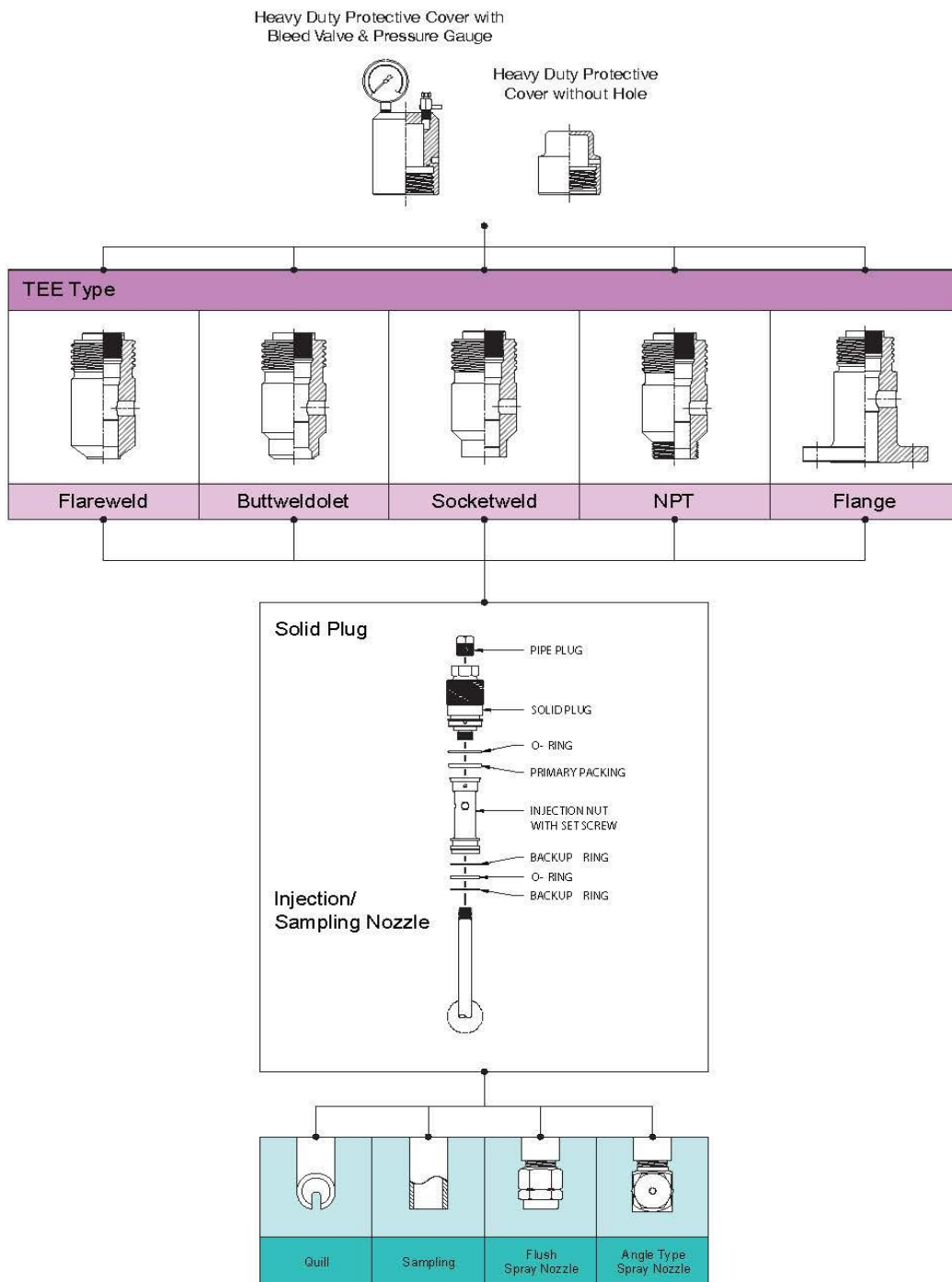
Hollow Plug



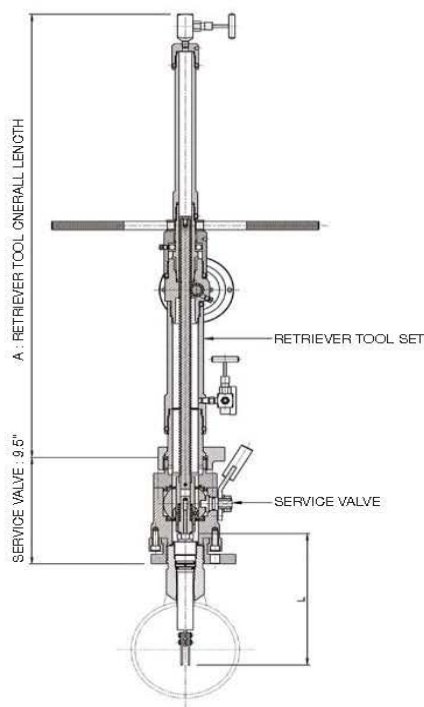
※ Galvanic, Hydrogen probe and etc are available

Chemical Injection / Sampling System

2 inch High Pressure Access Fitting System



Retriever Tool Kit Set for High Pressure Access Fitting Assembly



These consist of

- one Retriever Tool Set and
- one Service Valve (Full Bore Type)

GLOAZURE offers a retriever tool with a service valve that can be used to insert probe/coupon/sensor or retrieve them from a process whilst operating under full pressure.

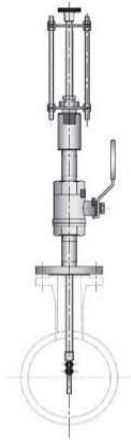
It can be used to retrieve coupons probes from the unills two inch access fitting system or from all standard two inch access fitting systems, when used with an in expensive adaptor.

The safety and ease operation of use of the retriever tool with the service valve system A retriever stroke can be selected by customer according to piping conditions.

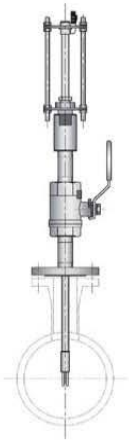
Letter	DESCRIPTION	MATERIAL				
		4"	12"	16"	24"	36"
A	RETRIEVER TOOL OVERALL LENGTH	42"	58"	67"	82"	97"
L	INSERT LENGTH	11"	20"	23"	31"	39"

Low Pressure Retractable Access Fitting System

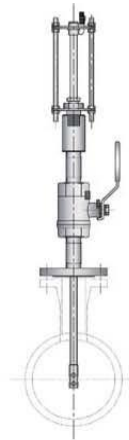
Gloazure Low Pressure Retractable system is applicable to maximum operating pressure 1500 psi.



STRIP COUPON



LPR PROBE



WIRE ROOF PROBE



INJECTION QUILL

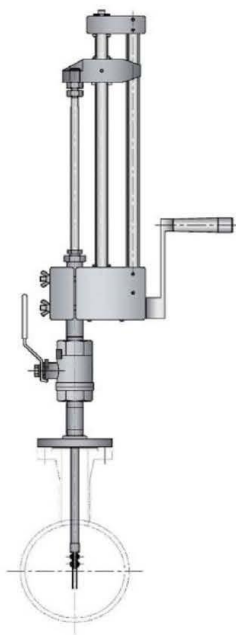


This main parts of the Access Fitting Assembly are;

- Stuffing Box
- NPT Nipple
- Full Port Ball or Gate Valve (Option)
- Coupon & Coupon Holder / Probe & Probe Holder / Injection Tube or Sampling Tube etc

Low Pressure Retractable Access Fitting System

Gloazure Low Pressure Retractable system is applicable to maximum operating pressure 1500 psi.



PART NUMBER	HOLDER LENGTH	
	(INCHES)	(MM)
CM17010	20" – 24"	508 – 610
CM17011	24" – 28"	610 – 711
CM17012	28" – 32"	711 – 813
CM17013	32" – 36"	823 – 914
CM17014	36" – 40"	924 – 1016
CM17015	40" – 44"	1016 – 1118
CM17016	44" – 48"	1118 – 1219
CM17017	48" – 52"	1219 – 1321

Off-line and On-line System

Gloazure offers off-line and on-line system corrosion monitoring system.



HHU (Hand Held Data Logger)



Transmitter



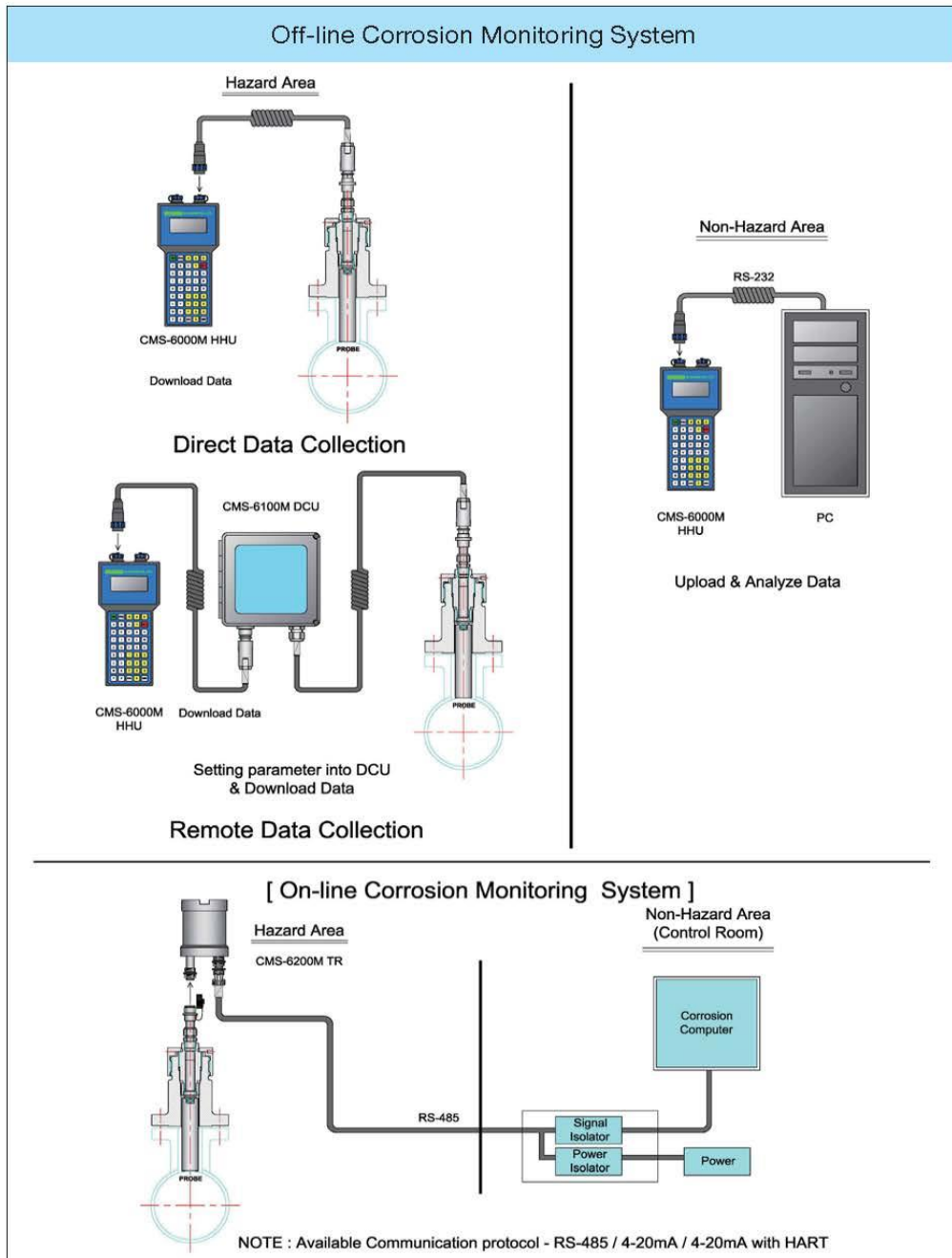
DCU (Data Collection Unit) - Remote Data Logger

Off-line and On-line System



loazure

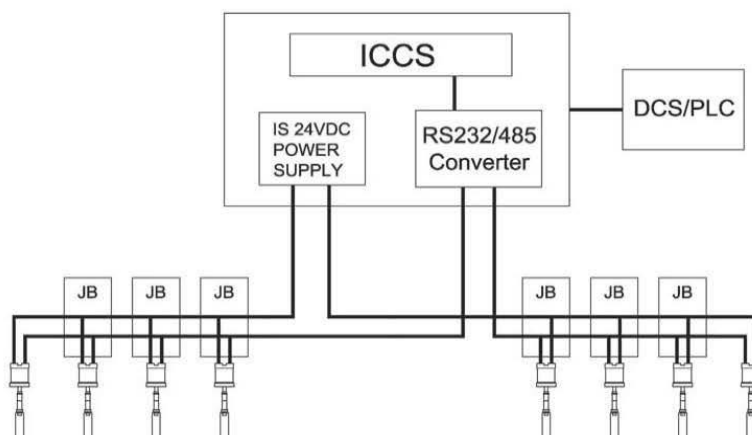
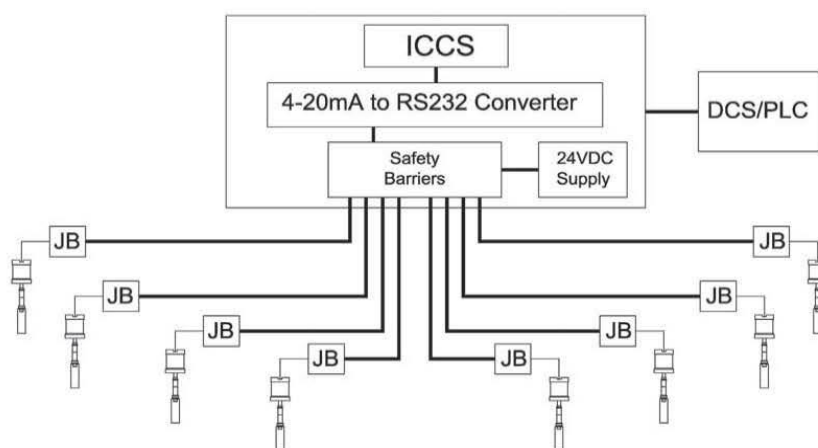
Diagram for off-line and on-line system



Off-line and On-line System

Gloasure offers

ICCS is for continuous corrosion monitoring system for ER (Electric Resistance) and LPR (Linear Polarization Resistance) and it is total solution for all corrosion control (on-line and off-line) and erosion control and also other systems monitoring. The advantage is customized design is available and total corrosion management is possible. Communication protocol : 4-20 mA or 4-20 mA with HART or RS 485



1. Off-line System
Hand Held Unit (HHU CMS-6100M)
Data Collection Unit
(DCU CMS-6200M/6200MD)

Handheld Unit(HHU)



CMS-6000M

Product Type`	CMS-6000M
Probe Type	Electrical Resistance (ER) Linear Polarization Resistance (LPR) Galvanic Potential
Resolution	20 bits
Memory	7,200 Data Reading
Ambient Temperature	-20°C~70°C
Power Supply	Lithium Battery Pack (7.2V 5Ah)
IECEX	Ex ia IIC T4 Ga/Gb
ATEX 	II 1/2 G Ex ia IIC T4 Ga/Gb
Ingress Protection	IP65
Communication	RS-232 Serial ASCII

Data Collection Unit(DCU)



CMS-6100M/CMS-6100MA



CMS-6100MD

Product Type	CMS-6100M	CMS-6100MA	CMS-6100MD
Probe Type	Electrical Resistance (ER) Linear Polarization Resistance (LPR) Galvanic Potential		
Resolution	20 bits		
Memory	7,200 Data Reading		
Ambient Temperature	-20°C~70°C	-40°C~70°C	
Power Supply	Lithium Battery Pack (7.2V 5Ah)		
IECEX	Ex ia IIC T4 Ga/Gb		Ex db ia IIC T4 Ga/Gb
ATEX	II 1/2 G Ex ia IIC T4 Ga/Gb		II 1/2 G Ex db ia IIC T4 Ga/Gb
Ingress Protection	IP66		
Interface	LCD/Keypad	None	
Communication	RS-232 Serial ASCII		

2. On-line System

Transmitter(RS-485 Modbus Interface)

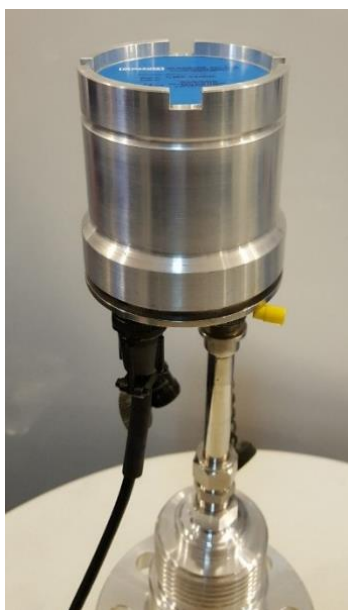
Transmitter(4~20mA Interface)

Transmitter(4~20mA with HART Interface)

Receiver(4~20mA Input)

Receiver(RS-485 Modbus Input)

Transmitter(RS-485, Ex-ia)



CMS-6200M/CMS-6200MA

Product Type	CMS-6200M/CMS-6200MA	
Probe Type	Electrical Resistance (ER) Linear Polarization Resistance (LPR) Galvanic Potential	
Resolution	20 bits	
Ambient Temperature	-40°C~70°C	
Power Supply	10 ~ 35 VDC	
Enclosure	316 Stainless Steel / Aluminum	
	For Single Use	For Multi-Drop Use
IECEX	Ex ia IIC T4 Ga/Gb Ex ia IIIC T130°C Da/Db	Ex ia IIB T4 Ga/Gb Ex ia IIIB T130°C Da/Db
ATEX 	II 1/2 G Ex ia IIC T4 Ga/Gb II 1/2 D Ex ia IIIC T130°C Da/Db	II 1/2 G Ex ia IIB T4 Ga/Gb II 1/2 D Ex ia IIIB T130°C Da/Db
Ingress Protection	IP66	
Output	RS-485 Modbus RTU or ASCII protocol	

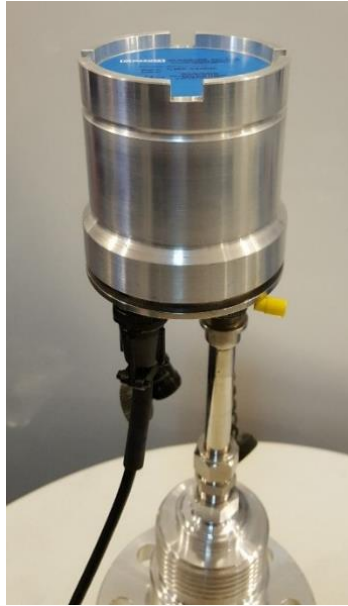
Transmitter(RS-485, Ex-d)



CMS-6200MD

Product Type	CMS-6200MD
Probe Type	Electrical Resistance (ER) Linear Polarization Resistance (LPR) Galvanic Potential
Resolution	20 bits
Ambient Temperature	-40°C~70°C
Power Supply	10 ~ 35 VDC
Enclosure	Flameproof copper-free aluminum
IECEEx	Ex db ia IIC T4 Ga/Gb Ex tb ia IIIC T130°C Da/Db
ATEX	II 1/2 G Ex db ia IIC T4 Ga/Gb II 1/2 D Ex tb ia IIIC T130°C Da/Db
Ingress Protection	IP66
Output	RS-485 Modbus RTU or ASCII protocol

Transmitter(4~20mA, Ex -ia)



CMS-6210M/CMS-6210MA/CMS-6220M/CMS-6220MA

Product Type	CMS-6210M/CMS-6210MA	CMS-6220M/CMS-6220MA
Probe Type	Electrical Resistance (ER) Linear Polarization Resistance (LPR) Galvanic Potential	
Resolution	16 bits	
Ambient Temperature	-40°C~70°C	
Power Supply	10 ~ 35 VDC Current Loop Powered	
Enclosure	316 Stainless Steel / Aluminum	
IECEX	Ex ia IIC T4 Ga/Gb Ex ia IIIC T130°C Da/Db	
ATEX	 II 1/2 G Ex ia IIC T4 Ga/Gb II 1/2 D Ex ia IIIC T130°C Da/Db	
Ingress Protection	IP66	
Output	4~20mA Current Loop Output	4~20mA Current Loop Output HART protocol revision 5 support

Transmitter(4~20mA,Ex-d)



CMS-6210MD/CMS-6220MD

Product Type	CMS-6210MD	CMS-6220MD
Probe Type	Electrical Resistance (ER) Linear Polarization Resistance (LPR) Galvanic Potential	
Resolution	16 bits	
Ambient Temperature	-40°C~70°C	
Power Supply	10 ~ 35 VDC Current Loop Powered	
Enclosure	Flameproof copper-free aluminum	
IECEX	Ex db ia IIC T4 Ga/Gb Ex tb ia IIIC T130°C Da/Db	
ATEX	II 1/2 G Ex db ia IIC T4 Ga/Gb II 1/2 D Ex tb ia IIIC T130°C Da/Db	
Ingress Protection	IP66	
Output	4~20mA Current Loop Output	4~20mA Current Loop Output HART protocol revision 5 support

Receiver(4~20mA input)



CMS-7210R

Product Type	CMS-7210R
Inputs	4~20mA current loop corrosion transmitter
Supply Voltage	100 ~ 240 VAC 50~60 Hz
Current Loop Voltage	24 V DC
Maximum Current Loop distance	10,000 feet
Outputs	RS-485 Modbus, Ethernet
Display	Color touch screen
Displayed Values and units	Metal Loss(mils or mm or μm) Corrosion Rate(mpy or mmpy or μmpa)
Calculation Period	6, 12, 24, 48 hours, 7, 15, 30 days
Resolution	0.1 mpy or 0.01 mil
Ambient Temperature	0°C~50°C
Mounting Type	Wall Mount

Receiver(RS-485 input)



CMS-7200R

Product Type	CMS-7200R
Inputs	RS-485 Modbus Corrosion Transmitter
Supply Voltage	100 ~ 240 VAC 50~60 Hz
Transmitter Supply Voltage	24 V DC
Maximum RS-485 Cable distance	1.2km(4,000 feet)
Outputs	Ethernet / Modbus Serial / OPC interface
Internal Connection	VGA/Mouse/Keyboard
Displayed Values and units	Metal Loss(mils or mm or μm) Corrosion Rate(mpy or mmpy or μmpa)
Calculation Period	6, 12, 24, 48 hours, 7, 15, 30 days
Resolution	0.1 mpy or 0.01 mil
Ambient Temperature	0°C~60°C
Mounting Type	Wall Mount or 19" Rack mount

How to order & identify proposed products

Example

1	2	3	4	5	6	7	8
CC	N	FW	CSA105	06	SO	01	01
Corrosion Coupon	Non-Tee	Flareweld	CSA105	6" Pipeline	Solid Plug	316SS	Protective Cover Without Hole
1. Application Type			2. Access Fitting Type		3. Access Fitting Connection Type		
CC : Corrosion Coupon CP : Corrosion Probe CJ : Chemical Injection & Sampling SP : Special Type			T : Tee Type N : Non Tee Type		FW : Flareweld BW : Butt weld SW : Socket weld FG(RJ) : Flange RTJ FG(RF) : Flange RF		
4. Body Material			5. Pipeline Size		6. Plug Type		
CSA105 : ASTM A105 Carbon Steel CSA350 : ASTM A350 LF2 Carbon Steel SS0316 : AISI 316 Stainless Steel SS0304 : AISI 304 Stainless Steel S31803 : Duplex Stainless Steel SP : Special Materials			02 : 2" 03 : 3" 04 : 4" 08 : 8"~10" 12 : 12"~18" 20 : 20"~36" 38 : 38" and above, Flat		SO : Solid Plug Assembly HO : Hollow Plug Assembly		
7. Plug Material					8. Cap		
01 : 316 Stainless Steel 02 : 316L Stainless Steel 03 : 304 Stainless Steel 04 : 304L Stainless Steel			05 : Carbon Steel 06 : Nitronic 60 SP : Special Materials		01 : Protective Cover without Hole 02 : Protective Cover with Hole 03 : Protective Cover with Bleed Valve 04 : Special Type		

Client



GLOAZURE CO., LTD

Busan Office

166, Geumgok-daero, Buk-gu, Busan, Korea
 Tel : +82-51-363-6021
 Fax : +82-51-363-6022

Seoul office

16, Teheran-ro 98-gil, Gangnam-gu, Seoul, Korea
 Tel : +82-2-555-0922 Fax : +82-2-555-0923
 Site : www.gloazure.com
 E-mail : gloazure@gloazure.com

Factory

11-7 Palgoe Inonggongdanji-gil, Youngwol-eup,
 Youngwol-gun, Gangwon-do, Korea
 Tel : +82-33-375-9990
 Fax : +82-33-375-9994