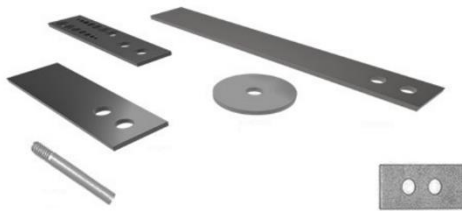


## BCORMON Corrosion Monitoring Product Catalog



**Corrosion Monitoring System**

**PT. SETIA HATI TEKINDO**  
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CAT. NO: S-PC-01 REV8 (N6B)

## CONTENT

<b>PROFILE</b>	i
Corrosion Monitoring System	
<b>CORROSION COUPON WEIGHT LOSS SYSTEM</b>	
Overview	1.1
Various Coupon	1.2
Corrosion Coupon Rack (3R)	1.3
<b>TWO INCH SYSTEM COUPON HOLDER (S20)</b>	
Overview	2.1
Various 2 inch System Coupon holder	2.2
<b>TWO INCH SYSTEM INJECTION, SAMPLING, AND SAND PROBE (S30)</b>	
Overview	3.1
Injection, Sampling and Sand Probe System	3.2
<b>ADAPTER, NIPPLE, VALVE (S40)</b>	
Overview	4.1
Various Adapter/Nipple, Valve and Accessories	
<b>RETRACTABLE SYSTEM (S500)</b>	
Overview	5.1
1" & 2" System Retractable Coupon Holder, Sampling, Injection, Stick Coupon Holder	5.2
<b>TWO INCH SYSTEM ACCESS FITTING (S60)</b>	
Overview	6.1
Access Fitting Assembly Flare weld, Flange, Hydraulic Access Fitting (S61,S62)	6.2
Protective Cover, Solid Plug, Hollow Plug, Hydraulic Solid and Hollow Plug (S620,S640,S650,S63)	6.4
<b>SERVICES TOOLS</b>	
Overview	7.1
2" and 1" System Retractor Tool (SR500)	7.2
Services Valve (SV50)	7.3
Hydraulic Retriever Tools (SH50)	7.4
Mechanical Retriever Tools (SM51)	7.5
Translation Retriever Tools (SM52)	7.6
Telescopic Retriever Tools (SM53)	7.7
Hot Tap Tool (ST50)	7.8
<b>ATTACHEMENT</b>	8.1

## COMPANY PROFILE

### General Information

PT. Setia Hati Tekindo one of Corrosion Monitoring Industry Company providing a variety of products and services to various industrial plants specializing in Corrosion Monitoring for oil and gas processing and petrochemical. Our Corrosion Monitoring Product under BCORMON trade mark.

### Company Mission

We have the mission that satisfaction of customer is our prime objective by achieving:

- Clearly understanding customer needs
- Total compliance to the needs and maintenance of standards
- Providing solutions though technical competence
- Fulfilling all orders in timely manner
- Provide the most completeness to reach the customer satisfaction

Quality Product is Our Priority according to Standard

### CORROSION MONITORING SYSTEM

Corrosion monitoring program is important to identify the location, rate, and underlying cause of corrosion. It is can identify any non-conforming alloy component. Corrosion monitoring program can provide significant advantages when integrated into both preventive maintenance and the process inherent to safety management programs. We can evaluate of inhibition from chemical injection system and scale monitoring at internal pipe line.

Based on the result of Corrosion Monitoring program, informed decision can be made, not only regarding the remaining life of the object affected by corrosion but also regarding life extension strategies, prospective material selection and cost effective methods for remedy of corrosion issues and problem.



BCORMON provides comprehensive monitoring of all critical componen of all industrial objects, assets, facilities and plants for sign of corrosion.

Coupon after exposure in pipeline:



Corrosion Coupon before cleaning and Corrosion Coupon after cleaning



Scale Coupon before cleaning and Scale Coupon after cleaning

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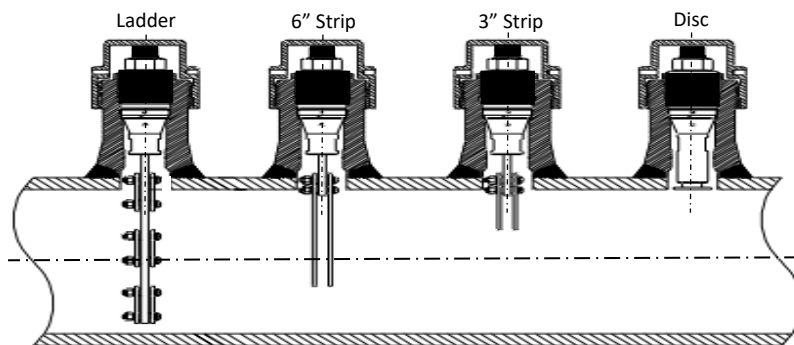
**Corrosion Monitoring System**

## CORROSION COUPON WEIGHT LOSS SYSTEM

**Overview**

Bcormon Corrosion coupon is an economical and simple method for corrosion monitoring but very important. They are the most effective and reliable method of measuring metal loss over a known period of time. A sample of coupon material of known dimensions, weight and composition is exposed to a process environment for a period of time.

Corrosion coupon can be match with the material for each specific application, ensuring the metal loss replicates the corrosion of the pipe wall as accurately as possible, commonly mild steel material AISI 1018 CS.



Pic. Coupon Position Configuration (Illustration)

Part Corrosion Coupon System



Corrosion Coupon position should be rotate 90° from the above picture. Strip coupon assemblies are typically positioned to either monitor the top, middle or bottom of a pipeline for using 3" or 6" coupon configurations.

Flush disc coupon assemblies are typically placed flush with the pipe wall or on a pipe bend. Ideal for pipeline where pigs are in operation.

Ladder and multi disc coupon assemblies offer simultaneous top, middle and bottom of line monitoring. Ideal for pipeline containing multiphase flow.

Once coupon recovered, cleaned and weighed, the difference in weight can be used to calculate the volume of material lost. This loss relative to the surface area can be used to calculate an annualised metal loss rate. This rate is typically expressed as Mill Per Year (MPY) or Millimetres Per Year (MMPY), is show in Equation below (Reff: NACE RP0775 / SP0775):

$$CR = \frac{W \times 365 \times 1,000}{ATD}$$



Where:

CR = average corrosion rate, millimeters per year (mm/y or mm/a)

W = mass loss, gram (g)

A = initial exposed surface area coupon, square millimeters (mm<sup>2</sup>)

T = exposure time, days (d)

D = density of coupon metal, gram per cubic centimeter (g/cm<sup>3</sup>)

Conversion Factors

1 mm/y = 39.4 mpy

1 mpy = 0.0254 mm/y

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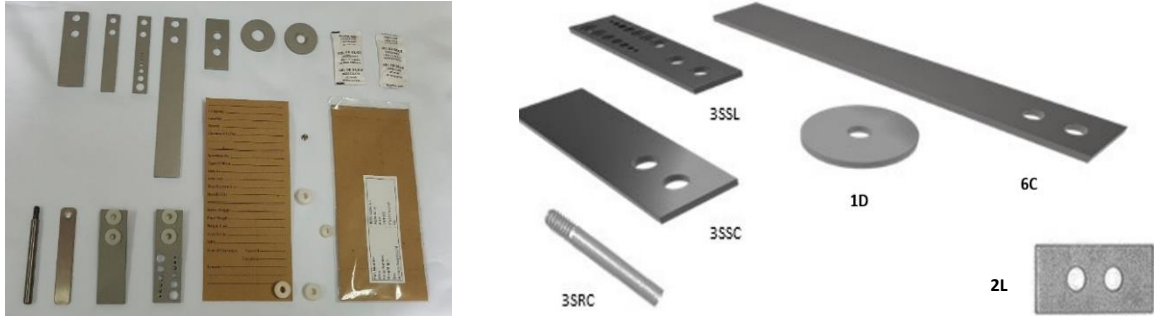
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**BCORMON Corrosion Monitoring System**

## VARIOUS COUPON (Strip, Disc, Rod, etc)

BCORMON has many various type of coupon for monitoring corrosion , scale, etc. Available in fixed or retrievable installation. Also has extensive experience of designing, specifying weight loss coupon system. BCORMON are supplied, supported and serviced globally by our network of local sales and support centers. Coupon support for Model 1" Retractable and 2" Access fitting (Reff: NACE RP 0775)



Pic. Various Coupon

## Ordering Information:

MODEL	SIZE, DESCRIPTION, AREA (INCH2) FOR CORROSION AND SCALE COUPON				
3SSC	2-7/8" x 7/8" x 1/8", 3" Strip Coupon , 5.2				
3SP	3" x 3/4" x 1/8", 3" Strip Coupon SP ( C ) , 4.7				
6C	6" x 7/8" x 1/8", 6" Strip Coupon, 11.4				
RSSC	3" x 1/2" x 1/16", Strip Coupon Retractable, 3.6				
2L	2" x 7/8" x 1/8", Ladder Strip Coupon, 3.4				
1D	Thick: 1/8" , Diameter: 1.25", Flush Disc Coupon , 2.2				
1M	Thick: 1/8" , Diameter: 1.25", Multiple Disc Coupon , 2.2				
3SSL	2-7/8" x 7/8 x 1/8", 3" Scale Coupon, 5.2				
6L	6" x 7/8" x 1/8", 6" Scale Coupon, 11.4				
RSSL	3" x 1/2" x 1/16", Scale Coupon Retractable, 3.6				
3R	3" x 1/2" x 1/16", Coupon Rack , 3.3				
3SRC	Length: 3", Diameter: 0.25", 3" Rod Coupon, 2.0				
2W	2" x 7/8" x 1/8", Weld Strip Coupon, 3.4				
	CODE	ALLOY/ MATERIAL			
	C106B	A106 Gr. B CS, Carbon Steel			
	C5L	API 5L CS, Carbon Steel			
	C1018	AISI 1018 CS, Carbon Steel, Mild Steel			
	CO110	Copper			
		CODE	SERIAL NO		
		0	Without Stamp Number		
		S	With Stamp Serial Number		
		P	Special/Custom		
			CODE	INSULATION	
			0	Without Insulator (Disc Coupon)	
			1	Nylon Insulators (Standard)	
			P	Special/Custom	
			CODE	HANDLING	
			1	Un-weighed	
3SSC	C1018	S	1	EXAMPLE (3"Strip, 1018CS, Stamp&Insultor)	

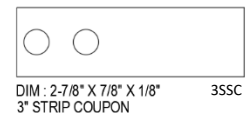
Soc , Fill X or Empty if Not Request/Not Specific/Custom

Density AISI 1018 = 7.87 g/cm<sup>3</sup>, Conversion 1 Sq. in = 645,16 mm<sup>2</sup>

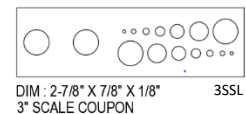
Coupon complete with : VCI (Vapour Corrosion Inhibitor) envelope, Pre-weight, Water proof bag, Silica gel, Serial Number.

Screw/Mounting not include in each Coupon (add. Cost), Each Coupon Holder Completed with Screw or Mounting.

Custom also available.



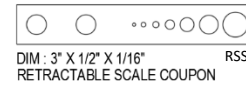
3SSC 3" STRIP COUPON



3SSL 3" SCALE COUPON



RSSC RETRACTABLE STRIP COUPON



RSSL RETRACTABLE SCALE COUPON



3SSC CORROSION COUPON



3SSL SCALE COUPON

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Corrosion Monitoring System

**Corrosion Coupon Rack & Bypass Piping System (3R Series)****Coupon Rack Assy (PN: TRA-B206-X)**

**Design to ASTM Specification and Ref. NACE SP/RP 0775.**

Corrosion coupons are the simple method and most commonly used for corrosion engineer to check the corrosion rate in the pipe line or tube, also check the effectiveness of corrosion inhibitor program for manage injection dosing rate on corrosion inhibitor. Also we can found form of corrosion from coupon after installation in the system. Corrosion coupons are small bars of various metals or alloys that are introduced into the system through a side stream commonly call coupon rack. The coupon alloy selection should be representative of system metals. The material of coupon commonly using Mild Steel AISI 1018 CS. Corrosion monitoring is mandatory installed at colling tower system to control inhibition program, prevent from uncompliance inhibitor and damage on the facility.



3R Corrosion Coupon (Copper)

Coupons comes are pre-weighed stated by a manufacturer, engineer can left in place for a fixed amount of time. After exposure, coupons are usually analysis by an independent laboratory.

One pcs corrosion coupon consists of:

- 1 Corrosion coupon (AISI 1018 CS, Copper or others)
- 2 Serial number stamp
- 3 VCI cover & bag
- 4 Envelope bag, silica and plastic bag

**Applications: Cooling tower system, Closed loop cooling, Boiler water system, WTP, LAB Testing, etc.**

**User: Factory, Petrochemical, Building, etc**



3R Corrosion Coupon



RSSL Scale Coupon



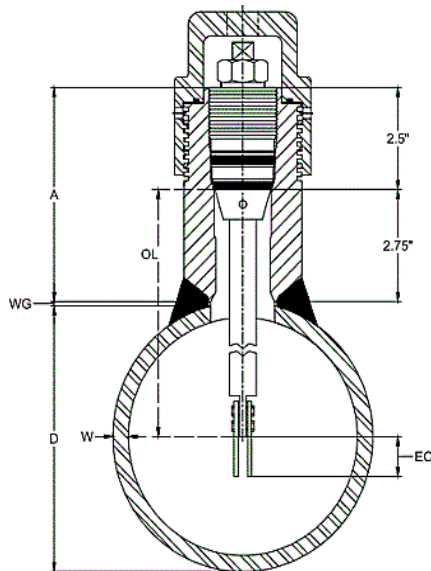
## TWO INCH SYSTEM COUPON HOLDER

**Overview (S20 Series)**

BCORMON offers variety of coupon holder styles among others for 2" System Coupon Holder (Access Fitting) and 1" System Coupon Holder (Retractable). Custom coupon holder also available.

**Various 2 inch System Coupon holder**

**S20 Strip or Scale Coupon Holder.** It's Fixed Coupon Holder. Suitable for 3" or 6" Strip or Scale Coupon. Coupon Holder are manufactured in 316 SS and are available in length from 2.5 inch to 36 inch.



Pic. S20 Strip or Scale Coupon Holder Illustration

To calculate the correct Ordering Length, Penetration in  $\frac{1}{2}$  D pipe, follow the below formula:

$$\text{Ordering Length (OL)} = (A + W + P) - 2.5''$$

Where:

- P = Penetration Required in pipe inside.  $\frac{1}{2}$  D
- W = Wall thickness of pipe
- A = Height of Access Fitting (5.25", 6.25", 7.25")
- 2.5 = Constant

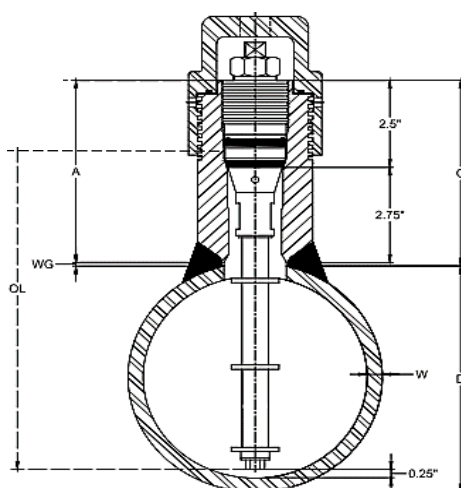
\*Note: Formula is based upon a standard access fitting height of 5.25 inches (A) and  $\frac{1}{16}$ " weld gap (WG)

Apply also to calculate Ordering Length of Disc Coupon Holder.

**S21 Disc Coupon Holder and S22 Fixed Disc Coupon Holder.**

There are two various for this type, Adjustable Disc Coupon Holder and Fixed Disc Coupon Holder. Disc Coupon Holder suitable for Flush Disc Coupon. Disc Coupon Holder are primarily intended for use in areas where pigging operations prohibit the use of projecting style Coupon Holder. Additional advantages are the lack of requirement to orient the coupon relative to the flow direction and greater exposed surface area at the pipe wall.

**S23 Multiple Disc Coupon Holder.** It's suitable for pipes with diameter greater than 6.00 inch and to be placed at a specific level in multi phase or stratified flow. For Ordering Length, follow the below formula:



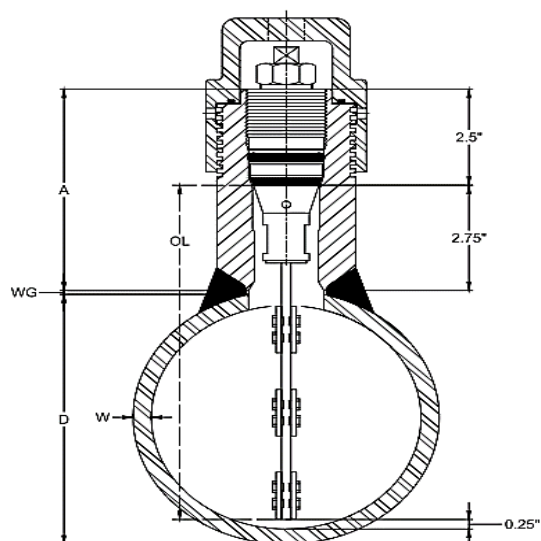
Pic. S23 Multiple Disc Coupon Holder Illustration

$$\text{Ordering Length (OL)} = C + D - (2W + 2.75'')$$

Where:

- C = 5.31" (Constant)\*
- D = Outside diameter of pipe
- W = Pipe wall thickness

\*Notes: This formula should only be used for Access Fitting Bodies with 5.25" height (A).



Pic. S24 Ladder Strip Coupon Holder Illustration

**S24 Ladder Strip Coupon Holder.** It's fixed coupon holder and suitable for Ladder Coupon and for pipe 8 inch O.D. pipe and greater. The body have single blade and containing holes spaced along its length for mounting the Ladder Coupon. The Ordering Length Calculation as follows:

$$\text{Ordering Length (OL)} = (C + D) - (2.75" + W) *$$

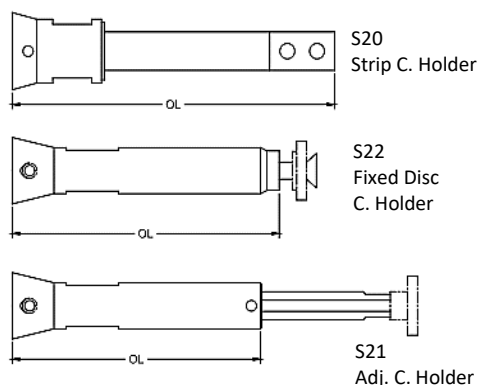
Where:

C = 5.31" ( Constant ) \*

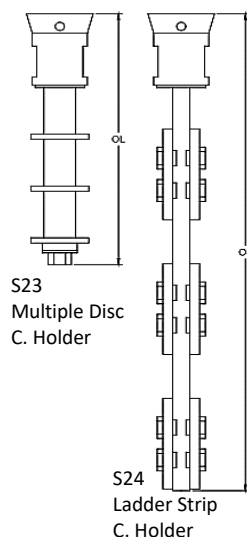
D = Outside diameter of pipe

W= Pipe wall thickness

\*Notes: This formula should only be used for Access Fitting Bodies with 5.25" height (A).



Pic. Various Coupon Holder



S24 Ladder Strip C. Holder

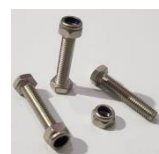
### Ordering Information:

MODEL	DESCRIPTION	
S20	For 2", 3", 6" Strip Coupon or Scale , Min. 3.25" Length	
S21	The Adjustable Disc Coupon Holder, 2.75" Length	
S22	The Fixed Disc Coupon Holder	
S23	Multiple Disc Coupon Holder ( for 8"- 48")	
S24	Ladder Strip Coupon Holder	
S25	2" System Rod Coupon Holder	
S26	NPT Coupon Holder	
	CODE	LENGTH REQUIRED
	XX.XX	Enter Length in Inch, (For Adjustable. type 2.75)
	CODE	ONE SPARE OF SEAL KIT
	1	Extra One Pair Mounting/Screw for Spare
		One Pair Mounting/Screw Included
S20	4.00	EXAMPLE (Strip Coupon Holder 4" Length)

Soc Fill X or Empty if Not Request/Not Specific/Custom

Coupon Holder Included: For Strip coupon included ss mounting PN. MK-S20, for Adjustable disc coupon included ss screw kit PN. SK-S21, for Fixed disc coupon included ss screw kit PN. SK-S22.

Unit weight of coupon holder (approx) : 0-3"=0.5 kg, 3-10"=1 kg, 11-20"=1.5 kg, 21-36"=2.5kg. Standard Material 316L SS



MK-S20 Strip Coupon Mounting hardware



S20 Strip Coupon Holder

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Corrosion Monitoring System



## TWO-INCH SYSTEM, SIDE TEE ACCESS FITTING ASSEMBLY FOR INJECTION, SAMPLING AND SAND PROBE SYSTEM

### Overview (S30 Series)

Two Inch System Injection, Sampling, and Sand Probe combined with Two Inches System Access Fitting. For Injection System there are two type, Injection from side (solid) and Hollow Tee Less Injection.

Chemical Injection system may be used for injection of chemical such as corrosion inhibitor, oxygen scavenger, demulsifier, water clarifier, glycol, etc. The Sampling system is used to take samples of the process fluid. Sand probe is an sand-erosion monitoring system to detect wall-thining of pipeline caused by sand-erosion.

**S30 Injection / S31 Sampling System.** Injection systems is one of the methode for controlling corrosion in pipeline, vessel, etc. Using injection system, the inhibitor can be injected with safety under full operating pressure. Sampling systems, as the name implies are used to take samples of the process fluid medium. Such samples are the analysed in the laboratory for inhibitor concentration levels, the presence of metal ions, oxygen levels, scale forming compounds and a wide range of process parameters.

Injection or sampling system is preferable to use an acces fitting with side tee. Tee NPT fitting threaded outlet on the side of Access fitting body, with optional Flange, Socketweld, and Butweld outlet to suit the type of services. If needed tee-less injection system, the tee connection can be closed off with a pipe plug.

**S32 Sand Probe System.** Sand probes are used to detect erosion in flow lines caused by abrasive particles such as sand. Same as the injection/Sampling system, the Sand Probe also consists of Acces Fitting Body, Solid Plug Assy, Protective Cover and Probe Assy. It's just that the Probe Assy consists of Sand Probe Nut, and Sand-Eroton Sacrificial Elements. The sacrificial elements without ER measurement involved and it's closed one end and has thread at the end to connect to the Sand Probe Nut.

Sacrificial Sand Erosion Probe System componens are manufactured from AISI 316 SS. The sacrificial element is constructed from AISI 316 SS. The sacrificial element is approximately inserted 50-60% into pipeline Inner Diameter (ID).

**S33 Hollow Tee-Less Injection System.** Same as the Injection system, Hollow Tee Less Injection System is to inject the treatment chemicals through a standard two inch acces fitting and it is does not require a side tee but thru above protective cover. Tee less Injection consist of Access Fitting Body, Protective Cover with hole, Hollow Plug Tee less Assembly, Injection Hose Connection, Shut Off Valve, Pipe or Tube, Check Plug Assembly and Quill/Nozzle.

### S30 Injection, S31 Sampling, and S32 Probe Assemblies S32 and S33 Tee-Less Injection

Construction of Chemical Injection or Sampling System components are manufactured from AISI 316 or 316L SS.

#### SIZING FORMULAS:

##### Non Flange Access Fitting Assemblies

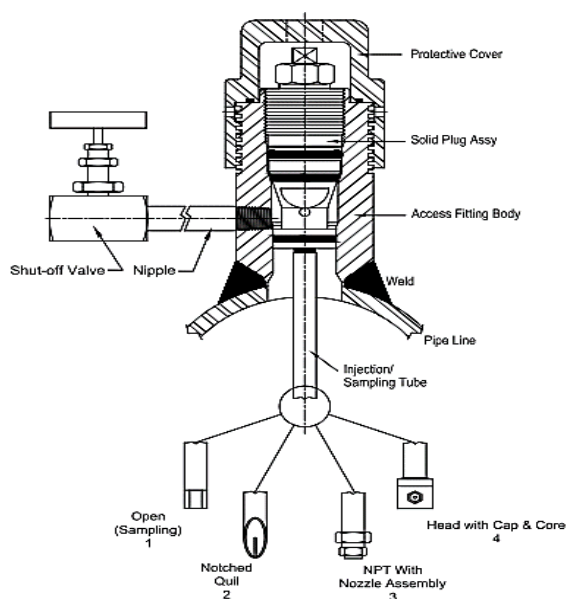
- Middle of line injection/sampling  

$$OL = (A + WG + 0.5 D) - (2.25" + N)$$

Where,

OL = Order Length Quill/Tube  
 A = Access Fitting Body Height (A)  
 WG = Weld gap (1/16")  
 W = Pipe wall thickness  
 D = Pipe outside diameter  
 N = Injection Nut Length (1.75", 2.75", etc)

\*Notes: This formula should only be used for Access Fitting Bodies with 5.25" height (A).



Pic. S30 & S31 Injection or Sampling System Configuration

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### SIZING FORMULAS:

#### Flange Access Fitting Assemblies

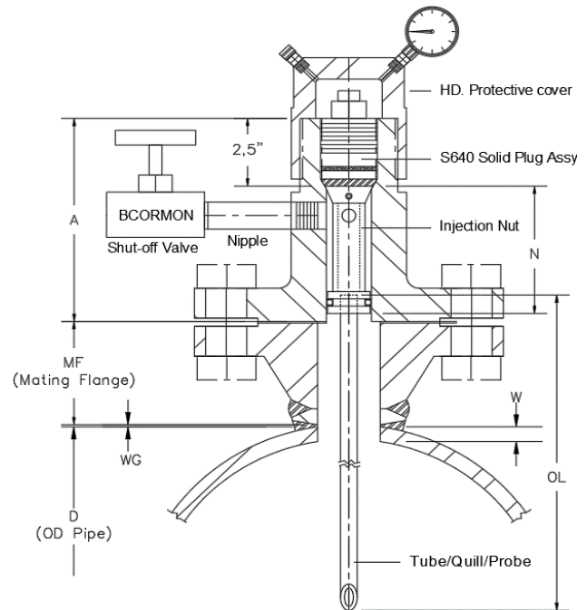
- Middle of line injection/sampling  

$$OL = (A + MF + WG + 0.5 D) - (2.25'' + N)$$

Where,

OL = Order Length Quill/Tube  
 A = Access Fitting Body Height (A)  
 MF = Mating Flange  
 WG = Weld gap (1/16")  
 W = Pipe wall thickness  
 D = Pipe outside diameter  
 N = Injection Nut Length (2.75"/3.75"/etc)

\*Notes: This formula should only be used for Flange Access Fitting, for pipe dimension see appendix.



Pic. S30 & S31 Injection or Sampling System Configuration

### HOLLOW TEE-LESS

#### Without side tee connection/Non tee Access Fitting

#### Non Flange Access Fitting Assemblies

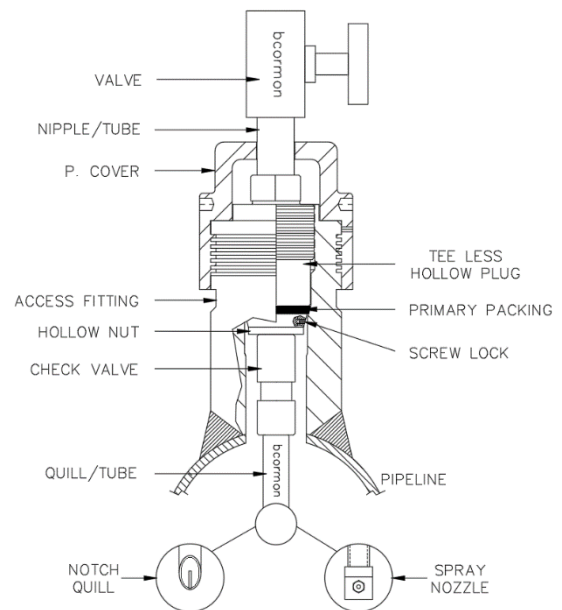
- Middle of line injection/sampling  

$$OL = (A + WG + 0.5 D) - (2.25'' + CV)$$

Where,

OL = Order Length Quill/Tube  
 A = Access Fitting Body Height (A)  
 WG = Weld gap (1/16")  
 W = Pipe wall thickness  
 D = Pipe outside diameter  
 CV = Int. Check Valve (2")

\*Notes: This formula should only be used for Access Fitting Bodies with 5.25" height (A).



Pic. S33 Tee-less Injection System Configuration



Pic. Spray Nozzle

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Corrosion Monitoring System

## Ordering Information:

MODEL	DESCRIPTION						
S30	Injection System/Quill						
S31	Sampling System/Quill						
S32	Sand Erosion Probe System						
S33	Tee Less (special for hollow)						
	CODE	INJECTION NUT LENGTH FOR ACCESS FITTING LENGTH					
	1	1.75" for 5.25" fitting					
	2	2.75" for 6.25" fitting					
	3	3.75" for 7.25" fitting					
	4	5.50" for 8.25" fitting					
	CODE	INJECTION NUT THREAD SIZE					
	1	¼" NPT					
	2	½" NPT					
	CODE	INJECTION NUT/SAND PROBE NUT/ TEE-LESS BODY MATERIAL					
	1	AISI 316L SS					
	2	AISI 316 SS					
	CODE	TUBE INJECTION/SAMPLING TYPE, PROBE SACRIFICIAL ELEMENT					
	A	Open/Sampling					
	B	Injection/Notched Quill					
	C	NPT with Nozzle Assembly					
	D	Head with Cap and Core					
	1	Straight (sand probe)					
	2	Reduces (sand probe)					
	CODE	TUBE INJECTION/SAMPLING THREAD SIZE QUILL/PROBE					
	1	¼" NPT					
	2	½" NPT					
	CODE	TUBE INJECTION/SAMPLING/PROBE MATERIAL					
	1	AISI 316L SS					
	2	AISI 316 SS					
	CODE	TUBE INJECTION/SAMPLING/PROBE LENGTH					
	XX.XX	Type (Open,Quill,NPT)					
	XX.XX	Type (Head)					
S30	2	1	1	B	1	2	6.00
S30	2	1	1				
S30	2	1	1	B	1	1	6.00

For pipe, detail alloy, quill and nozzle see the table. Fill X or Empty if Not Request/Not Specific/Custom

## EXAMPLE ORDER PN :

- ¼" Injection nut only 2.75", 316L SS : PN S30-2-1-1
- ¼" Sampling nut only 2.75", 316L SS : PN S31-2-1-1
- ¼" Tee-less with nozzle, 316L SS : PN S33-X-1-1-C-1-1-X.XX (Order Length)
- ¼" Tube Quill only, 316 SS : PN B-1-1-X.XX (Order Length)

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BCORMON

Corrosion Monitoring System

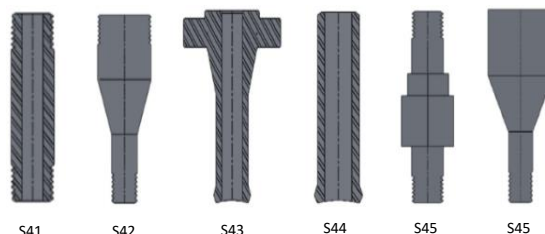
**Various Adapter/Nipple and Accessories (S40 Series)**

BCORMON has six various for Adapter and Nipple that is Nipple NPT, Swage Nipple, Flangolet, Nippoled, Coupling, and ACME Adapter. Accessories Valve also available

**Adapter/Nipple****Ordering Information:**

MODEL	DESCRIPTION		
S41	Nipple NPT		
S42	Swage Nipple		
S43	Flangolet		
S44	Nippoled		
S45	Coupling		
S46	ACME Adapter		
	<b>CODE</b>	<b>CONNECTION IN</b>	
	2	¼" NPT Connection	
	5	½" NPT Connection	
	7	¾" NPT Connection	
	10	1" NPT Connection	
	20	2" NPT Connection	
		<b>CODE</b>	<b>CONNECTION OUT</b>
		2	¼" NPT Connection
		5	½" NPT Connection
		7	¾" NPT Connection
		10	1" NPT Connection
		20	2" NPT Connection
S41	5	5	EXAMPLE (Nipple ½" NPT)

Fill X or Empty if Not Request/Not Specific/Custom

**Valve and Accessories****Ordering Information:**

MODEL	DESCRIPTION		
S41NV	Needle Valve		
S42BV	Ball Valve		
S43CV	Check Valve		
S44BL	Bleed Valve		
S45TF	Threadoed/WN Flange		
S46PG	Pressure Gauge		
	<b>CODE</b>	<b>CONNECTION IN</b>	
	2	¼" NPT Connection	
	5	½" NPT Connection	
	7	¾" NPT Connection	
	10	1" NPT Connection	
	20	2" NPT Connection	
	RF	Flange RF	
	RJ	Flange RJ	
	API	Flange API	
		<b>CODE</b>	<b>CONNECTION OUT</b>
		2	¼" NPT Connection
		5	½" NPT Connection
		7	¾" NPT Connection
		10	1" NPT Connection
		20	2" NPT Connection
		RF	Flange RF
		RJ	Flange RJ
		API	Flange API
S41NV	5	5	EXAMPLE (Needle Valve ½" NPT)

Fill X or Empty if Not Request/Not Specific/Custom



Pic. S41NV Needle Valve

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Corrosion Monitoring System

## RETRACTABLE SYSTEM

## Retractable ½" to 2" System (S500 Series)



**BCORMON** have any various of the retractable system, such as Retractable Coupon Holder, Retractable Sampling and Retractable Chemical Injection System. Others name call Stick Coupon Holder, Stringer etc. The model are economical metode compare with others and commonly use for chemical injection optimize related with monitoring scale and corrosion inhibitor. We can operate with one person only using retractable system.

The Retractable System designed to mount onto a 1" piping system, but can easily be adapted to fit your specific requirements. The unit assembly consists of a housing, packing gland and an insertion rod or holder or with an injection/sampling fitting. A specially designed housing packing gland is used with the unit for insertion into or retraction from a pressurized system without a process shutdown. The fitting, which is threaded or welded to the the pipe, and end of the rod holder or tube, can be either a quill, open, cap & core, or nozzle assembly type (for chemical injection). Working pressure 1000,1500,2000 psi and Seal temperature up to 260 deg Celcius or Above. Body Material 316 SS or others.

Standard lengths are available in 18, 24, 30, and 36 inches stroke. This model also available in ½, ¾, 1 and 2 inches NPT connection also flange or custom. The ¼" female NPT on the injection tube allows you to install a quill or chose various nozzle configuration commonly for above one inch connection. Recommendation for high pressure installation retractable system using Retractor tool SR500.



Pic. S501 Retractable Coupon Holder

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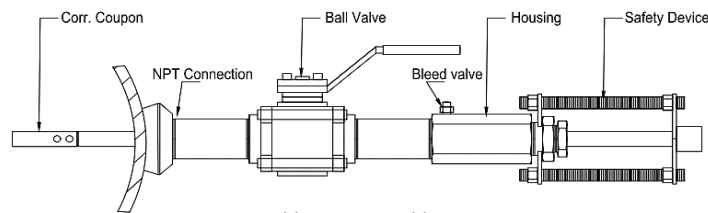
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**S501****Retractable Corrosion or Scale Coupon Holder/Stick Coupon Holder (1/2" to 2")**

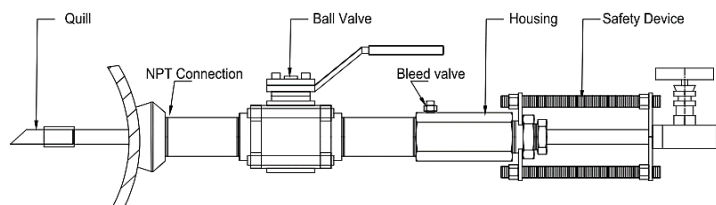
Simple method with one person only, System Coupon Holder are designed to be specifically compatible with Retractable Scale or Strip Coupon. Ideal for locations where pigging or flow disturbance is not a concern, strip coupon holders can be adjusted for monitoring at top, middle and bottom of line in pipe. With the the BCORMON Retractor, the retractable coupon holder allows for easy, rapid changing of coupons without system shutdown. Available Pressure 1000,1500 and 2000 psi.



Pic. S501 Retractable Coupon Holder System

**S502,S503****Retractable Sampling, Retractable Chemical Injection/Stringer (1/2" to 2")**

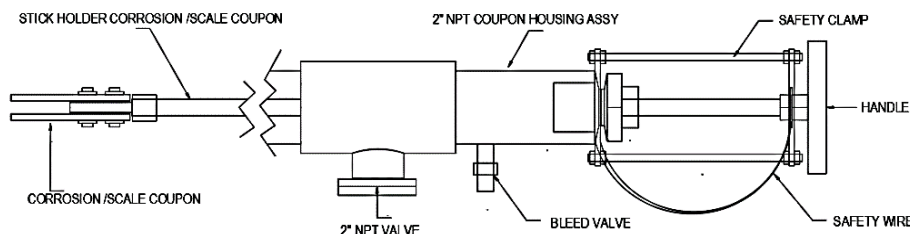
S502 model can use for sampling fluid. S503 This model can use for chemical injector, Working pressure 1000,1500,2000 psi. Insertion the tube can be adjusted to permit injection / sampling at precisely the desire point within the process fluid.



Pic. S502 &amp; S503 Retractable Sampling System / Retractable Injection System

**S504****Retractable Corrosion or Scale Coupon Holder/Stick Coupon Holder (1/2" to 2")**

S504 model 2" and 1" System Coupon Holder are designed to be specifically compatible with 3" Scale or Strip Coupon, The system equal with coupon holder catalog above, with pressure 1000,1500,2000 psi



Pic. S504 Retractable Stick Coupon Holder

**Ordering Information:**

MODEL	DESCRIPTION				
S501	Retractable Corrosion or Scale Coupon Holder (Stick)				
S502	Retractable Sampling System				
S503	Retractable Chemical Injection System (Stringer)				
S504	2" & 1" System Retractable Coupon Holder (Stick)				
	CODE	CONNECTION			
		50	½" NPT Connection		
		75	¾" NPT Connection		
		100	1" NPT Connection		
	200	2" NPT Connection			
		CODE	ORDER LENGTH		
			18	18 Inches Stroke	
			24	24 Inches Stroke	
			30	30 Inches Stroke	
		36	36 Inches Stroke		
			CODE	SAFETY CLAMP OPTION	
			0	Without Safety Clamp	
	1	With Safety Clamp			
	S501	100	18	1	EXAMPLE (1" Hole,18" Stroke)

soc

Fill X or Empty if Not Request/Not Specific/Custom

**Specification :**

- Pressure Rating up to 1000,1500,2000 PSI
- Temperature up to 260°C
- Easy to Use, Can Operate with One Person Only
- Simple and Standard model use for 1/2" and 2" inch System Corrosion Monitoring
- Economical Method Comparing with others Standard Corrosion Monitoring Model
- Commonly Use for Chemical Injection Optimize (Scale and Corrosion Monitoring)
- Easy Adjusted Monitoring Position: top, middle or bottom in pipeline
- Atomizer/Spray Nozzle full cone available.

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**Corrosion Monitoring System**



## TWO INCH SYSTEM ACCESS FITTING ASSEMBLIES

## Overview (S60 Series)

BCORMON offers any variety of option for the Access Fitting Assembly, Hydraulic and Non-Hydraulic Access Fitting, Flange and Non-Flange Access Fitting, with Tee or Non-Tee Access Fitting. Access fitting assemblies provide access for corrosion monitoring as coupon holder, corrosion probe, etc. It's also used as access for chemical injection and sampling equipments into a high pressure system, vessel or pipe line.



Pic. Coupon holder, Access Fitting and Protective cover



Pic. S640 Solid Plug Assy

Installation of the corrosion monitoring system Access Fitting are using special tools as retriever and service valve tool and hottapping tool for new point.

The acces fitting consist of the body and a solid or hollow plug assembly and a protective cover are available and recomended for all application.

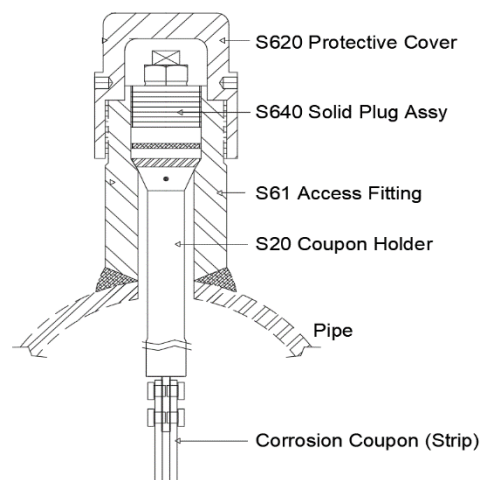
Protective Cover used for Access Fitting ACME thread protection from external damage. Solid Plug Assembly used for Corrosion Coupon, Chemical Injection, Sand Probe. Hollow Plug Assembly used for Corrosion Probe and Tee Less Chemical Injection.

BCORMON access fitting use standard material that are generally used such as AISI 316 stainless steel and ASTM A105 / 350 LF2 also inspected NDT. However different material are available on request. Flarweld access fitting recommended for simple connection direction weld to pipe without flange for reduced cost.

BCORMON Access Fitting designed meets the condition maximum working pressure 6000 psig, temperature -86 F to 500 F (260 deg C), and sour services (H2S) condition.

## Specification :

- Pressure Rating up to 6000 PSI
- Temperature up to + 204°C, 232°C and 260°C (Optional)
- Mounting ref. per ASME B31.3
- Standard ACME Thread Connection for Two inch system
- Compatible with standard 2" System Service Valve
- Passed NDT Inspection (UT)



Pic. Corrosion Coupon System

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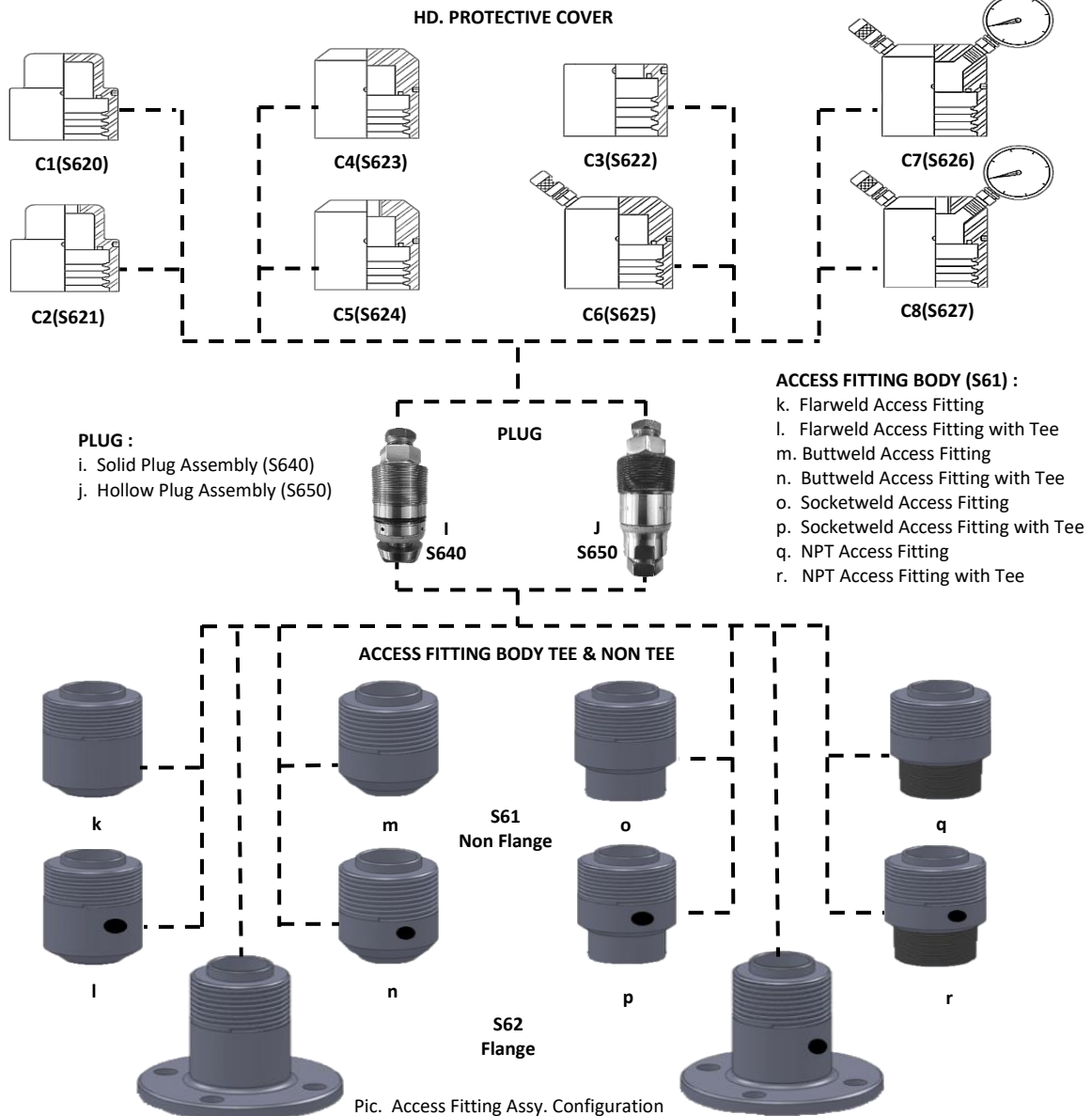
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Corrosion Monitoring System

### S61 and S62 Access Fitting Assembly



MODEL & CODE		HEIGHT (INS)	0,25 T HEIGHT (INS)	0,50 T HEIGHT (INS)	0,75 T HEIGHT (INS)	1 T HEIGHT (INS)	APPROX WEIGHT (LBS)
FLARWELD	(02,08,20,FL)	5.25	5.25	6.26	6.25	7.25	5-8
BUTWELD	(B0)	5.25	6.25	6.26	6.25	7.25	5-8
SOCKETWELD	(S0)	6.25	6.25	6.26	6.25	7.25	5-8
NPT	(N0)	6.25	7.25	6.26	6.25	7.25	5-8
RF FLANGE	150# (F1)	5.25	5.25	7.25	7.25	7.25	9-11
	300# (F2)	5.25	5.25	7.25	7.25	7.25	11-12
	400/600# (F3)	6.25	6.25	7.25	7.25	7.25	12-13
	900/1500# (F4)	6.25	6.25	8.25	8.25	8.25	25-27
	2500# (F5)	6.25	6.25	8.25	8.25	8.25	40-41
RJ FLANGE	150# (J1)	5.25	5.25	7.25	7.25	7.25	9-13
	300# (J2)	5.25	5.25	7.25	7.25	7.25	11-17
	400/600# (J3)	6.25	6.25	7.25	7.25	7.25	12-18
	900/1500# (J4)	6.25	6.25	8.25	8.25	8.25	25-38
	2500# (J5)	6.25	6.25	8.25	8.25	8.25	40-46
2-1/16 API FLANGE RJ	2000# (A1)	6.25	6.25	7.25	7.25	7.25	15-18
	3000/5000# (A2/A3)	6.25	6.25	8.25	8.25	8.25	31-38
	10000# (A4)	6.25	6.25	8.25	8.25	8.25	40-46

Height Dimension in Inch (1"=25,4 mm) , Weight in LBS (1 LBS=0,45 Kg)

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Corrosion Monitoring System

## Ordering Information:

MODEL	DESCRIPTION					
S61	Access Fitting Non Flange (Flarweld, Butweld, Socketweld, NPT)					
S62	Flange Access Fitting (RF, RJ, API)					
S63	Hydraulic Access Fitting Non Flange (Flarweld, Butweld, Socketweld, NPT)					
S64	Flange Hydraulic Access Fitting (RF, RJ, API)					
	<b>CODE</b>	<b>PLUG ASSEMBLY – OPTION BELOW</b>				
	XXX	<b>TYPE PLUG</b>		<b>ALLOY MATERIAL</b>		<b>PACKING SEAL</b>
		0	Not Req.	0	Not Req.	0 Not req.
		S	Solid	1	316 SS	1 Viton O-ring (for solid only), PTFE(G) primary packing
		H	Hollow	2	316L SS	2 EP O-ring, vespel primary packing
				3	Nitronic 60	3 No O-ring, Nit. 60 packing
		<b>CODE</b>	<b>TEE SIZE</b>			
		T0	Non Tee			
		T1	¼" Tee			
		T2	½" Tee			
		T3	¾" Tee			
		T4	1" Tee			
		<b>CODE</b>	<b>BODY MATERIAL</b>			
		C105	ASTM A105 Carbon Steel			
		C350	ASTM A350 LF2 Carbon Steel			
		S316	AISI 316 Stainless Steel			
		S31803	Duplex Stainless steel			
		<b>CODE</b>	<b>TYPE OF FITTING (Connection to pipe)</b>			
		B0	Butweld			
		S0	Socketweld			
		N0	NPT			
		<b>CODE</b>	<b>PIPE LINE SIZE in INCH (For Flarweld Type)</b>			
		02	2-6"			
		08	8-18"			
		20	20-36"			
		FL	Flat"			
		<b>CODE</b>	<b>FLANGE (F=RF, J=RJ, A=API)</b>			
		F1/J1	150#RF/150#RJ			
		F2/J2	300#RF/300#RJ			
		F3/J3	600#RF/600#RJ			
		F4/J4	9/1500#RF/9/1500#RJ			
		F5/J5	2500#RF/2500#RJ			
		A1	2000#API			
		A2	3000#API			
		A3	5000#API			
		A4	10000#API			
		<b>CODE</b>	<b>COVER/THREAD PROTECTOR</b>			
		C0	Not Req.			
		C1	HD Cover Without Hole P/N S620			
		C2	HD Cover With Hole P/N S621			
		C3	HD Cover With Large Hole P/N S622			
		C4	HP Without Hole P/N S623			
		C5	HP With Hole P/N S624			
		C6	HP Without Hole Bleed Valve P/N S625			
		C7	HP Without Hole Bleed Valve & Pressure Gauge P/N S626			
		C8	HP With Hole Bleed Valve & Pressure Gauge P/N S627			
<u>S61</u>	<u>S11</u>	<u>T0</u>	<u>C105</u>	<u>02</u>	<u>C1</u>	<u>EXAMPLE (Flarweld Access fitting non tee Mat. A105, Solid Plug Assy 316 SS, Cover Without hole)</u>

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Corrosion Monitoring System

### S620 Series

#### Protective Cover

CODE	APPLICATION	DESCRIPTION
C1	Intermittent Monitoring	HD. Cover without hole, 3.75"Height X 3.5"Dia, 1.8 kg weight, (PN:S620)
C2	Continuous Monitoring	HD. Cover with hole, 3.75"Height X 3.5"Dia, 1.8 kg weight, (PN:S621)
C3	Continuous Monitoring	HD. Cover large hole, 3.75"Height X 2.5"Dia, 1.2 kg weight, (PN:S622)
C4	Intermittent Monitoring	HP. Cover without hole, 4.5"Height X 3.75"Dia, 3.5 kg weight, (PN:S623)
C5	Continuous Monitoring	HP. Cover with hole, 4.5"Height X 3.75"Dia, 3.5 kg weight, (PN:S624)
C6	Intermittent Monitoring	HP. Cover without hole + Bleed Valve, 4.5"Height X 3.75"Dia, 3.5 kg weight, (PN:S625)
C7	Intermittent Monitoring	HP. Cover without hole + Bleed Valve & PG, 4.5"Height X 3.75"Dia, 3.5 kg weight, (PN:S626)
C8	Continuous Monitoring	HP. Cover with hole + Bleed Valve & PG, 4.5"Height X 3.75"Dia, 3.5 kg weight, (PN:S627)

pac

### S640-Series

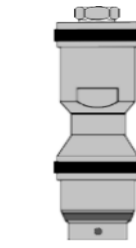
Solid Plug Assy, Height 4" x Dia 1.75", Weight 1 kg

NO	PN	DESCRIPTION
S6	S640	Solid Plug Assembly
S2	S641	Solid Plug Body, 316L SS
S1	S642	½" NPTM Plug, SS
S3	S643	O Ring, viton
S4	S644	Primary Packing, PTFE G
S5	S645	Solid Plug Nut, 316L SS
S6	S646	Set Screw, SS (Not shown)

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S640 Solid Plug



S660 Solid Plug Hydraulic

### S650-Series

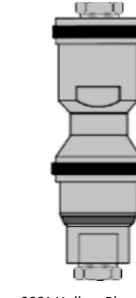
Hollow Plug Assy, Height 5" x Dia 1.75", Weight 1 kg

NO	PN	DESCRIPTION
H7	S650	Hollow Plug Assembly
H2	S651	Hollow Plug Body, 316L SS
H1	S642	½" NPTM Plug, SS
H3	S644	Primary packing, PTFE G
H4	S652	Hollow Plug Nut, 316L SS
H8	S646	Set Screw, SS (Not shown)
H5	S653	Insert Packing, PTFE G
H6	S654	Hollow Plug Bore Sealing Nut, 316L SS

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S650 Hollow Plug



S661 Hollow Plug Hydraulic

S660 Solid Plug Hydraulic Assy, Height 5" x Weight 1 kg

S661 Hollow Plug Hydraulic Assy, Height 5.5" x Weight 1 kg

Add -C for crown model, example: Oring Crown PN: S643-C, Crown Solid Plug Assy PN: S640-C

sm

### S63 Hydraulic Access Fitting

FLAREWELD TYPE		HEIGHT (INS)	WEIGHT (LBS)
Non tee & ¼" tee		6.5"	17
Tee ½", ¾" and 1"		7.5"	18
FLANGE TYPE	RATING	HEIGHT (INS)	WEIGHT (LBS)
Non tee & ¼" tee	150#	6.5"	20
	300#	6.5"	21
	600#	7.5"	24
	1500#	7.5"	36
	2500#	7.5"	47
Tee ½", ¾" and 1"	150#	7.5"	23
	300#	7.5"	24
	600#	8.5"	27
	1500#	8.5"	39
	2500#	9.5"	52

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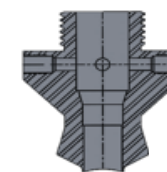
Locking pin assy PN : LP01

Locking pin o-ring PN : LP02

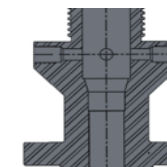
Locking Pin Crown Plug PN : LP03-C

Wear ring PN : WR01

For Custom call Bcormon



S63  
Flareweld  
Access Fitting



S64  
Flange  
Access Fitting

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Corrosion Monitoring System

## SERVICES TOOLS

## OVERVIEW

BCORMON have any online services tools such as Retractor, Retriever, Services Valve, Surge tube, Accessories tools and Hot Tap Machine. It is all to support Corrosion Monitoring System program activities.

- **RETRACTOR (SR500)**

BCORMON Retractor is a tool designed to aid in the retraction of monitoring equipment mounted in a low pressure (2" & 1" System) access system. The retractor permits the operator to retract and insert a variety of Retractable system equipments, under pressure and without causing any interruption to the operating system. BCORMON Retractor is manufactured with a light-weight cast aluminum body, and carbon steel thread rods/guides. The standard retractor is designed to operate on a 2" & 1" access system assembly. A retractor that accommodates an 1 ½ " fitting is also available.

- **SERVICES VALVE ,SINGLE OR DOUBLE/DBB (SV50)**

The service valve with Acme thread provides a temporary seal at the access point while the monitoring device is removed for inspection, maintenance or service. A key advantage to the service valve's design is that it can swivel even once tightened onto the access fitting, so that the operator may orientate it in a position that gives clear access to the bleed-port and drain valves and handle, taking into account any encumbrances that may be present in the working space.

The BCORMON Retriever and Service Valve are designed to install and retrieve internal corrosion monitoring equipment within an operating system while under full working pressure. Both the retriever and service valve have been specifically designed for the purpose of retrieval under pressure through a 2" access fitting body, and incorporate many features to ensure that the equipment may be used safely, swiftly and without difficulty.

- **RETRIEVER ,VARIOUS TYPE (SH50,SM51,SM52)**

The retriever works on a pressure-balanced principle. This safety feature ensures that in the event of sudden pressure release from the system, the retriever non telescopic. The BCORMON retriever is designed to operate strictly under hydraulic and rack gear mechanical principles, and the number of turns to completely seat or retract a component is a known constant. This allows the operator to have complete control over installation or removal, and is a distinct advantage over other models of retriever / access systems.

- **HOT TAP MACHINE (ST50)**

The Hot Tap Machine provides a safe and reliable method of hot tapping high pressure access fittings on presented pipelines or vessels.

A Special cutter assembly is installed in the access fitting previously welded onto the pipe. To tap a hole through the pipe wall, a service valve is installed on to the fitting. This allows the drill inside fitting to be isolated if necessary. The hot tap tool is mounted onto the service valve and mated to the drill. The drive screw on the hot tap tool puts pressure onto the drill as the tool shaft is rotated to cut through the pipe wall. After the hole is cut through the pipe wall, the tool is removed from the valve and the retrieval tool is then used to pull the drill assembly from the fitting. Shavings and cuttings are removed using swabs or brushes.

**SR500****2" and 1" System Retractor Tool**

2" and 1" System Retractor Tool uses quality material and can operate at pressure up to 2,000 psi and temperature up to 350 deg C. It can be used in any others one inch system product with hexagone housing model.



Pic. SR500 Retractor Tool

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BCORMON 2" and 1" System Retractor is simply and easily tool operated, can be operated by one person only. It's completely compatible with 1" System Retractable coupon holder, probe, sampling and injection device. It is also compatible with a standard 2" and 1" full port ball valve and nipple assembly. Retractor complete with tools and adaptors in a handy carrying case for easy storage and portability.

**Specification :**

- Pressure Rating up to 2000 PSI
- Temperature up to +204°C, 350°C
- Simple Design and Easy for maintenance
- Easy to Use for 1" System Retractable
- Reduce cost and low manpower

**Feature :**

Description	Ordering Length		
	24	30	36
Retractor Overall Length	36"	38"	40"
Minimum Working Radius	9"	9"	9"
Retractor Assembly Weight	9 kg	9.5 kg	10 kg
Shipping Weight (Net)	13 kg	14 kg	15 kg
Shipping Cubage. cu. ft.	1	1.2	1.3

**Ordering Information :**

MODEL	DESCRIPTION	
SR500	Retractor Tool	
	CODE	ORDER LENGTH
	24	24 Inch
	30	30 Inch
	36	36 Inch
SR500	24	EXAMPLE (Order 24" Stroke)

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For custom call Bcormon.



Pic. Retractor Tool Bag

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Corrosion Monitoring System



**SV50****Services Valve**

BCORMON SV50 Single and Double Block Services Valve with Acme thread installed on top of a mechanical or hydraulic access fitting and provides temporary containment also control of pipeline media, as well as the mounting point for the mechanical retriever tool during installation/retrieval of monitoring devices such as corrosion coupon, corrosion probe, etc.

This tool also allows equitable control of the pressure between the side of the pipe and the side of the retriever. There are have needle valve for the lower ball and seat assemblies. Evenly distributed pressure reduces the torque needed to operate the valve. It also reduces pressure from fast pressurization, thus extending the lives of the seats, o-ring and components of valve.

A blinking cap/plug assembly can be installed on the valve as an additional safety measure, if the plug cannot be removed, or if a longer term sealing is required. However, the servoces valve is not designed to be mounted permanently.



Pic. SV50 Single Block Service Valve

This tool manufactured from Carbon Steel and Stainless Steel 316 SS for 2500 psi, 3600 psi and 6000 psi. Material meet with NACE MR0175. The weight of the Valve is approximately 50.7 lbs (23 kg) in one box, standard temperature up to 204 degree celsius .

The services valve comes as a HD. box and includes a non-spark hammer, an extension bar and a tools kit.

**Specification :**

- Pressure Rating 2500 PSI, 3600 PSI, 6000 PSI
- Temperature up to +204°C, 232°C and 250°C (Optional)
- Completed with bleed valve and equalizing
- Shorter Model, Simple Design and Easy for maintenance
- Compatible with Standard 2" System Access System (ACME)

**Part of Service Valve:**

- \*Seat Ball PN: SV50-SB-XX (XX Pressure)
- \*Stem Valve PN: SV50-SV
- \*Equalizing Valve PN: SV50-EV
- \*Bleed Valve PN: SV50-BV-25



Pic. Seal Kit



Pic. SV50 Double Block and Bleed Service Valve

**Ordering Information :**

MODEL	SERVICE VALVE	
SV50	Service valve	
	CODE	PRESSURE RATING, HEIGHT, WEIGHT
	S25	Single block for pressure up to 2500 psi, F-F Height 7", Ov. Length 8.5", Weight 37 lb/17 kg
	S36	Single block for pressure up to 3600 psi, F-F Height 7", Ov. Length 8.5", Weight 37 lb/17 kg
	S60	Single block for pressure up to 6000 psi, F-F Height 7", Ov. Length 8.5", Weight 37 lb/17 kg
	D36	Double block for pressure up to 3600 psi, F-F Height 10", Ov. Length 12", Weight 43 lb/ 20kg
	D60	Double block for pressure up to 6000 psi, F-F Height 10", Ov. Length 12", Weight 43 lb/ 20kg
SV50	S36	EXAMPLE (Order Single Block Service Valve 3600 PSI)

Soc ( add weight 2kg-3kg for service valve box )

For custom call Bcormon.

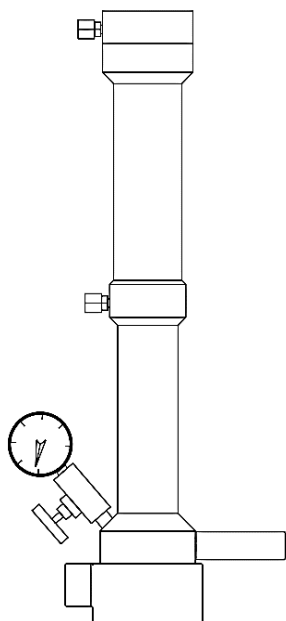
**Accessories :**

- SV Service valve Seal kit      PN : SV50-XX-SK
- SV Service Vlave Repair kit      PN : SV50-XX-RK

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**SH50****Hydraulic Retriever Tool**

Pic. SH50 Hydraulic Retriever Tool

The BCORMON Hydraulic Retriever Tool allows installation and removal of corrosion monitoring devices in system under operating pressures of up to 3600 psi (24.84 Mpa) and 6000 psi (41.4 Mpa) and standard temperatures from -26 °C to 204 °C. Hydraulic Retriever is other parts of BCORMON High Pressure Hydraulic Access Fitting System product line (Services valve, access fitting, plugs, and covers).

Benefits over standard of Hydraulic Retriever Tools Systems are :

- No internal thread, thus eliminating the problem associated with debris in treading, and eliminating the possibility of thread galling.
- The size is lighter and shorter.
- Easier operational permits.
- Security is increase. (no external moving parts, no telescope action).
- Simple operation.

BCORMON Hydraulic Retriever Tools is basically consist of a two stage hydraulic action cylinder. So that it can be used in high pressure conditions safely and easily, and relatively compact form factors. This tool is equipped with a hydraulic pump (air or manual), and must be used with a hydraulic service valve (single or multiple isolation) please note when ordering. The length of the retriever must match the length of the probe and the type of services valve that is appropriate. If needed, hydraulic tools can be used in standard 2" mechanical installation using a mechanical-to-hydraulic adapter. The main material of the BCORMON Hydraulic Retriever Tools is stainless stell and has an empty weight approx of 22 is the shortest depends on the stroke length. Device comes as with HD box.

**Specification :**

- Pressure Rating 3600 PSI, 6000 PSI
- Temperature up to +204°C , 232°C and 250°C (Optional)
- With Pressure Gauge and Bleed Valve
- Compatible with standard 2" System Service Valve
- Simple Design and Easy for maintenance



Pic. Hydraulic Retriever Pump

**Ordering Information :**

MODEL	RETRIEVER TOOL	
SH50	Hydraulic Retriever Tool	
	CODE	TYPE OF SERVICE VALVE
	SV	Single Isolation Valve
	DV	Double Isolation Valve
	CODE	RETRIEVER LENGTH
	For Single Isolation Valve	
	20	Max. stroke 200 mm, Max Holder 150 mm, Weight 22 kg, Ov. Length 610 mm
	30	Max. stroke 300 mm, Max Holder 250 mm, Weight 23 kg, Ov. Length 760 mm
	40	Max. stroke 400 mm, Max Holder 350 mm, Weight 25 kg, Ov. Length 910 mm
	60	Max. stroke 600 mm, Max Holder 550 mm, Weight 29 kg, Ov. Length 1210 mm
	80	Max. stroke 800 mm, Max Holder 750 mm, Weight 32 kg, Ov. Length 1510 mm
	100	Max. stroke 1000 mm, Max Holder 950 mm, Weight 36 kg, Ov. Length 1810 mm
	For Double Isolation Valve	
	30	Max. stroke 300 mm, Max Holder 250 mm, Weight 23 kg, Ov. Length 822 mm
	40	Max. stroke 400 mm, Max Holder 350 mm, Weight 25 kg, Ov. Length 972 mm
	60	Max. stroke 600 mm, Max Holder 550 mm, Weight 29 kg, Ov. Length 1272 mm
	80	Max. stroke 800 mm, Max Holder 750 mm, Weight 32 kg, Ov. Length 1572 mm
	100	Max. stroke 1000 mm, Max Holder 950 mm, Weight 36 kg, Ov. Length 1872 mm
SH50	SV	30 EXAMPLE (Order Single valve and 300 mm Stroke Hyd. Retriever)
SH50	DV	40 EXAMPLE (Order Double valve and 400 mm Stroke Hyd. Retriever)

sm,xor

For custom call Bcormon.

**Accessories :**

SH Retriver Seal kit PN : SH50-XX-XX-SK

SH Retriver Repair kit PN : SH50-XX-XX-RK

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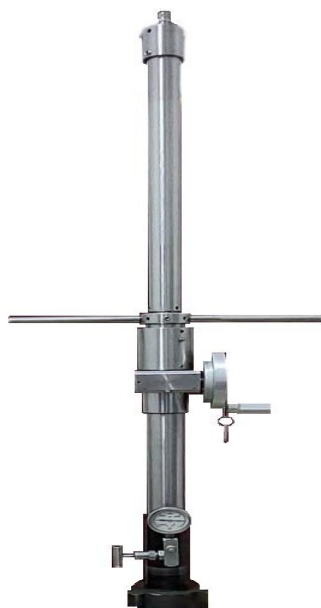
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**SM51****Mechanical Retriever Tool**

Pic. SM51 Mechanical Retriever Tool

The retriever and service valve is one package of tools for installation and removal both probe or coupon under pressure with Acme thread connection, the tool is easy to use just rotating the handle because the method working using gear box non telescopic also designed working pressure 2500 psi, 3600 psi and 6000 psi. Standard temperature -18 to 204 degree Celsius. The retriever's main components are manufactured from stainless steel, easy to use and lightweight design for operator. Various standard sizes of retrievers are offered to cover most service requirements, while custom-ordered sizes are available upon request. The mechanical retriever is designed to operate under mechanical principles, and the number of turns to completely seat or retract a component is a known constant.

Retriever main Components material made of stainless steel for support resistance to mechanical damage/corrosion and for ensure years of reliable service. Standard retriever sizes are offered to cover most services requirements, while custom-ordered sizes are available on request. Device comes as with HD box.

**Specification :**

- Pressure Rating 2500 PSI, 3600 PSI, 6000 PSI
- Temperature up to + 204°C, 232°C and 250°C (Optional)
- With Pressure Gauge and Bleed Valve
- Non-telescopic design and Easy to use
- Compatible with standard 2" System Service Valve

**Ordering Information :**

MODEL	RETRIEVER TOOL	
SM51	Mechanical Retriever Tool	
	CODE	TYPE FOR PRESSURE
	25	For working pressure up to 2500 psi
	36	For working pressure up to 3600 psi
	60	For working pressure up to 6000 psi
	CODE	MAX. STROKE/LENGTH, HOLDER/PROBE LENGTH, WEIGHT, LENGTH, CLEREANCE
	14	Max. stroke 14" , Max Holder 4" , Weight 45 lbs, Ov. Length 35" , Clereance 50" (PF)
	18	Max. stroke 18" , Max Holder 8" , Weight 47 lbs, Ov. Length 39" , Clereance 54" (P4)
	25	Max. stroke 25" , Max Holder 15" , Weight 57 lbs, Ov. Length 55" , Clereance 70" (P12)
	37	Max. stroke 37" , Max Holder 27" , Weight 72 lbs, Ov. Length 79" , Clereance 94" (P24)
	49	Max. stroke 49" , Max Holder 39" , Weight 97 lbs, Ov. Length 111" , Clereance 126" (P40)
<u>SM51</u>	<u>25</u>	<u>18</u>
EXAMPLE (Order Retriever 2500 Psi, 18" Stroke)		

soc,sm

For custom call Bcormon.

**Accessories :**

SM Retriever Seal kit PN : SM51-XX-XX-SK  
 SM Retriever Repair kit PN : SM51-XX-XX-RK  
 Surge tube PN : ST01  
 Div. hose 10 feet PN : DH01  
 Overshot adapter PN : OS01  
 Seat reamer PN : SR01  
 Thread tap PN : TT01  
 Thread brass PN : TB01  
 Magnetic brass PN : MB01  
 Blanking plug PN : BP01



Pic. Thread Tap

**Part of Retriever :**

\*Pilot Adaptor PN: PA01-HE  
 \*Spline Rack PN: SM51-SP-XX (XX Stroke)  
 \*Gear Shaft PN: SM51-GS-30  
 \*Hammer Nut PN: HN01-01  
 \*Pressure Gauge PN: PG-316-X (X Pressure)  
 \*Bleed Valve Multiport PN: BVM-25  
 \*1/4" Bleed Valve PN: BVS-25

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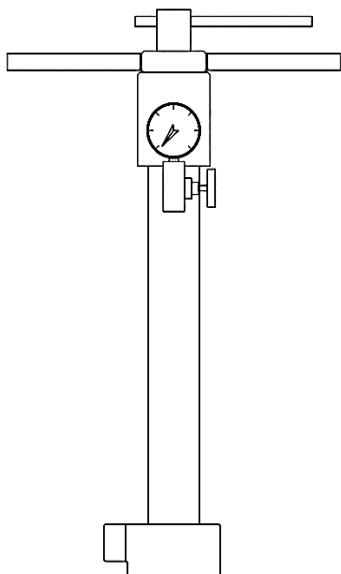
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**Corrosion Monitoring System**

**SM52****Translation Retriever Tool**

Pic. S52 Translation Retriever Tool

SM52 Retriever are available for working pressure 2500 psi, 3600 psi and Temperature Rating from -26 °C to 204 °C.

The tool can be used with the Standard Acme Thread Access fitting and Service valve, with no adapters required.

The major components of the Retriever are: a head assembly, rotation tube, translation tube, and socket adapter assembly. Sealing within the unit is achieved with Viton o-rings and graphite-impregnated Teflon dynamic seals. A bleed valve assembly with a conveniently located pressure gauge permits pressure entering the retriever to be easily read to verify pressure equalization has been achieved. Once the service valve has been closed and the retriever is isolated from the process pressure, the bleed valve then allows the product inside the retriever to be bled away for safety and cleanliness. It also can be used for product sampling and is required for use when back pressuring.

The mechanical retriever is designed to operate under mechanical principles, and the number of turns to completely seat or retract a component is a known constant, to turn the plug. Device comes as with HD box.

**Specification :**

- Pressure Rating 2500 PSI, 3600 PSI
- Temperature up to + 204°C, 232°C and 250°C (Optional)
- Lightweight, Non-telescopic design and Short length
- Compatible with standard 2" System Service Valve

**Ordering Information :**

MODEL	RETRIEVER TOOL		
SM52	Mechanical Retriever Tool Rotation and Translation		
	<b>CODE</b>	<b>TYPE FOR PRESSURE</b>	
	25	For working pressure up to 2500 psi	
		<b>CODE</b>	<b>MAX. STROKE/LENGTH, HOLDER/PROBE LENGTH, WEIGHT, LENGTH</b>
		14	Max. stroke 14" , Max Holder 4" , Weight 46 lbs, Ov. Length 30"
		18	Max. stroke 18" , Max Holder 8" , Weight 50 lbs, Ov. Length 34"
		25	Max. stroke 25" , Max Holder 15" , Weight 57 lbs, Ov. Length 41"
		37	Max. stroke 37" , Max Holder 27" , Weight 69 lbs, Ov. Length 53"
<u>SM52</u>	<u>25</u>	<u>18</u>	<u>EXAMPLE (Order Retriever 2500 Psi, 18" Stroke)</u>

Soc

For custom call Bcormon.

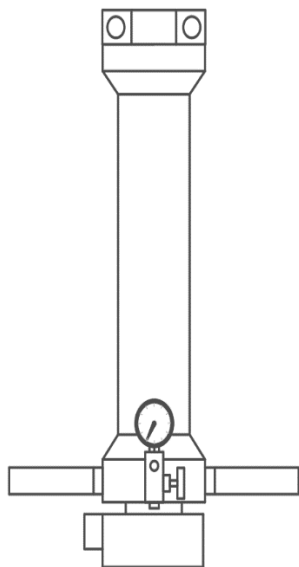
**Accessories :**

SM Retriver Seal kit      PN : SM52-XX-XX-SK  
 SM Retriver Repair kit    PN : SM52-XX-XX-RK

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**Corrosion Monitoring System**

**SM53****Telescopic Retriever Tool**

SM53 Retriever designed to install and pick up for internal corrosion monitoring equipment in the temporary operating system under full working pressure no shut-down (up to 3,600 psi/24.8 MPa). A 6,000 psi (41.4 MPa) model is also available. Key components to the Retrieval System, the Retriever and Service Valve is a versatile tool with a Field-proven history of reliable and safe performance application. Retriever specially designed for the purpose of taking below pressure through the body of the access fitting 2" system and combines to many features to ensure that the equipment can be used safely, quickly and without difficulty for operator.

The retriever works at with a balanced pressure principle. Be careful, This security feature ensures that in case of sudden release of pressure from the system, retriever will not telescope. Retrievers are designed to operate strictly under the principles of mechanics, and the number of turns to actually sit or pull back components is unknown constant. This indication allows the operator to complete control over installation or removal, and constitutes the difference advantages over other retriever/access models system. Device comes as with HD box

Pic. S53 Telescopic Retriever Tool

**Specification :**

- Pressure Rating 3600 PSI, 6000 PSI
- Temperature up to + 204°C, 232°C and 250°C (Optional)
- Telescopic design
- Compatible with standard 2" System Service Valve

**Ordering Information :**

MODEL	RETRIEVER TOOL	
SM53	Telescopic Retriever Tool	
	CODE	TYPE FOR PRESSURE
	36	For working pressure up to 3600 psi
	60	For working pressure up to 6000 psi
	CODE	MAX. STROKE/LENGTH, HOLDER/PROBE LENGTH, WEIGHT, LENGTH, CLEREANCE
	14	Max. stroke 14" , Max Holder 4" , Weight 45 lbs, Ov. Length 35", Clereance 50" (PF)
	18	Max. stroke 18" , Max Holder 8" , Weight 47 lbs, Ov. Length 39", Clereance 54" (P4)
	25	Max. stroke 25" , Max Holder 15" , Weight 57 lbs, Ov. Length 55", Clereance 70" (P12)
	37	Max. stroke 37" , Max Holder 27" , Weight 72 lbs, Ov. Length 79", Clereance 94" (P24)
	49	Max. stroke 49" , Max Holder 39" , Weight 97 lbs, Ov. Length 111", Clereance 126" (P40)
<u>SM53</u>	<u>36</u>	<u>18</u>
EXAMPLE (Order Retriever 3600 Psi, 18" Stroke)		

soc, sm, pac

**Accessories :**

SM Retriver Seal kit PN : SM53-XX-XX-SK  
 SM Retriver Repair kit PN : SM53-XX-XX-RK

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**ST50****Hot Tap Tool**

ST50 Drilling Machine is designed for making 2" Access Fitting the tool also can hot taps from hole ½" to 4" taps /hole (100 mm approx) in pipe lines under pressure. In addition, it can be used for installing 2" Solid or Hollow Plug for corrosion monitoring system.

The machine is available in models 18 inches and 24 inches stroke/of boring bar travel.



The models and material meet NACE standard MR0175-93 ( sulfide stress cracking resistant metallic material for oilfield equipment ).

With an operating pressure 1480 psi, temperature range of -29°C to 260 °C the Drilling Machine ST50 is highly versatile and can be used in a wide range of tapping. Also available for high temp.

**Key features:**

- Maximum working pressure of 100 bar (1480 psi) at 38 °C
- Lightweight design
- Available with manual ratchet crank
- Variable drill size available

Pic. Hot Tap / Drilling Machine Tool

**Specification :**

- Pressure Rating 1480 PSI
- Temperature up to + 260°C
- Easy to use, Lightweight, Simple design
- Compatible with standard 2" System Service Valve

**Ordering Information :**

MODEL	HOT TAP TOOL	
ST50	Hot Tapping tool/ Drilling Machine	
	CODE	LENGTH OF STROKE/TRAVEL
	18	18 Inch length
	24	24 Inch length
ST50	18	EXAMPLE

wdt

**Accessories :**

HT Seal kit	PN : ST50-XX-SK
HT Repair kit	PN : ST50-XX-RK
Drill ½"/12 mm	PN : DR12
Drill 5/8"/16 mm	PN : DR16
Drill 3/4"/19 mm	PN : DR19
Drill 7/8"/22 mm	PN : DR22
Drill 1"/25 mm	PN : DR25
Drill 1-3/8"/34 mm	PN : DR34
Others.	

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## ATTACHMENT

## PIPE SIZE &amp; SCHEDULE

Metric

ANSI PIPE SCHEDULE  
SI-UNITS (METRIC)For 5s, 10s, 40s, 80s:  
Figures based on stainless steelOD's = mm  
Wall thickness = mm  
Weight = kg/m (plain end mass)

Nominal pipe size inches	OD mm	ASME B36.19				ASME B36.10												
		5s	10s	40s	80s	10	20	30	STD	40	60	XS	80	100	120	140	160	XXS
6 1/8	10.3		1.24 0.28	1.73 0.36	2.41 0.48	1.24 0.28		1.45 0.32	1.73 0.37	1.73 0.37		2.41 0.47	2.41 0.47					
8 1/4	13.7		1.65 0.51	2.24 0.64	3.02 0.80	1.65 0.49		1.85 0.54	2.24 0.63	2.24 0.63		3.02 0.80	3.02 0.80					
10 3/8	17.1		1.65 0.64	2.31 0.86	3.20 1.12	1.65 0.63		1.85 0.70	2.31 0.84	2.31 0.84		3.20 1.10	3.20 1.10					
15 1/2	21.3	1.65 0.82	2.11 1.01	2.77 1.30	3.73 1.65	2.11 1.00		2.41 1.12	2.77 1.27	2.77 1.27		3.73 1.62	3.73 1.62				4.78 1.95	7.47 2.55
20 3/4	26.7	1.65 1.04	2.11 1.31	2.87 1.71	3.91 2.24	2.11 1.28		2.41 1.44	2.87 1.69	2.87 1.69		3.91 2.20	3.91 2.20				5.56 2.90	7.82 3.64
25 1	33.4	1.65 1.33	2.77 2.13	3.38 2.55	4.55 3.29	2.77 2.09		2.90 2.18	3.38 2.50	3.38 2.50		4.55 3.24	4.55 3.24				6.35 4.24	9.09 5.45
32 1 1/4	42.2	1.65 1.68	2.77 2.76	3.56 3.46	4.85 4.56	2.77 2.69		2.97 2.87	3.56 3.39	3.56 3.39		4.85 4.47	4.85 4.47				6.35 5.61	9.70 7.77
40 1 1/2	48.3	1.65 1.95	2.77 3.11	3.68 4.13	5.08 5.51	2.77 3.11		3.18 3.53	3.68 4.05	3.68 4.05		5.08 5.41	5.08 5.41				7.14 7.25	10.15 9.56
50 2	60.3	1.65 2.44	2.77 4.01	3.91 5.54	5.54 7.63	2.77 3.93		3.18 4.48	3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44
65 2 1/2	73.0	2.11 3.77	3.05 5.36	5.16 8.81	7.01 11.64	3.05 5.26		4.78 8.04	5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39
80 3	88.9	2.11 4.60	3.05 6.59	5.49 11.52	7.62 15.59	3.05 6.46		4.78 9.92	5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68
90 3 1/2	101.6	2.11 5.29	3.05 7.55	5.74 13.57	8.08 19.01	3.05 7.41		4.78 11.41	5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63				-	-
100 4	114.3	2.11 5.96	3.05 8.52	6.02 16.40	8.56 22.77	3.05 8.37		4.78 12.91	6.02 16.07	6.02 16.07		8.56 22.32	8.56 22.32	11.13 28.32			13.49 33.54	17.12 41.03
125 5	141.3	2.77 9.67	3.40 11.82	6.55 22.20	9.53 31.59	3.40 11.56		6.55 21.77	6.55 21.77	6.55 21.77		9.53 30.97	9.53 30.97	12.70 40.28			15.88 49.11	19.05 57.43
150 6	168.3	2.77 11.55	3.40 14.13	7.11 28.83	10.97 43.42	3.40 13.83		7.11 28.26	7.11 28.26	7.11 28.26		10.97 42.56	10.97 42.56	14.27 54.20			18.26 67.56	21.95 79.22
200 8	219.1	2.77 15.09	3.76 20.37	8.18 43.39	12.70 65.95	3.76 19.97	6.35 33.31	7.04 36.81	8.18 42.55	8.18 42.55	10.31 53.08	12.70 64.64	12.70 64.64	15.09 75.92	18.26 90.44	20.62 100.92	23.01 111.27	22.23 107.92
250 10	273.1	3.40 23.08	4.19 28.34	9.27 61.52	12.70 83.19	4.19 27.78	6.35 41.77	7.80 51.03	9.27 60.31	9.27 60.31	12.70 81.55	12.70 81.55	15.09 96.01	18.26 114.75	21.44 133.06	25.40 155.15	28.58 172.33	25.40 155.15
300 12	323.9	3.96 31.89	4.57 36.73	9.53 75.32	12.70 99.43	4.57 35.98	6.35 49.73	8.38 65.20	9.53 73.88	10.31 79.73	14.27 108.96	12.70 97.46	17.48 132.08	21.44 159.91	25.40 186.97	28.58 208.14	33.32 238.76	25.40 186.97
350 14	355.6	3.96 35.06	4.78 42.14	9.53 81.33	12.70 107.40	6.35 54.69	7.92 67.90	9.53 81.33	9.53 81.33	11.13 94.55	15.09 126.70	12.70 107.39	19.05 158.10	23.83 194.96	27.79 224.65	31.75 253.56	35.71 281.70	
400 16	406.4	4.19 42.41	4.78 48.26	9.53 93.27	12.70 123.31	6.35 62.64	7.92 77.83	9.53 93.27	9.53 93.27	12.70 123.30	16.66 160.12	12.70 123.30	21.44 203.53	26.19 245.56	30.96 286.64	36.53 333.19	40.49 365.35	
450 18	457.2	4.19 47.77	4.78 54.36	9.53 108.37	12.70 140.62	6.35 70.57	7.92 87.71	9.53 122.38	9.53 105.16	14.27 155.80	19.05 205.74	12.70 139.15	23.83 254.57	29.36 309.62	34.93 363.56	39.67 408.26	45.24 459.37	
500 20	508.0	4.78 60.46	5.54 70.00	9.53 117.15	12.70 155.13	6.35 78.55	9.53 117.15	12.70 155.12	9.53 117.15	15.09 183.42	20.62 247.83	12.70 155.12	26.19 311.17	32.54 381.53	38.10 441.49	44.45 508.11	50.01 564.81	
550 22	558.8	4.78 66.57	5.54 77.06	-	-	6.35 86.54	9.53 129.13	12.70 171.09	9.53 129.13	-	22.23 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	53.98 672.26	
600 24	609.6	5.54 84.16	6.35 96.37	9.53 141.12	12.70 187.07	6.35 94.53	9.53 141.12	14.27 209.64	9.53 141.12	17.48 255.41	24.61 355.26	12.70 187.06	30.96 442.08	38.89 547.71	46.02 640.03	52.37 720.15	59.54 808.22	
650 26	660.4					7.92 127.36	12.70 202.72	-	9.53 152.87	-		12.70 202.72						
700 28	711.2					7.92 137.32	12.70 218.69	15.88 271.21	9.53 164.85	-		12.70 218.69						
750 30	762.0	6.35 120.72	7.92 150.36			7.92 147.28	12.70 234.67	15.88 292.18	9.53 176.84	-		12.70 234.67						
800 32	812.8					7.92 157.24	12.70 250.64	15.88 312.15	9.53 188.82	17.48 342.91		12.70 250.64						
850 34	863.6					7.92 167.20	12.70 266.61	15.88 332.12	9.53 200.31	17.48 364.90		12.70 266.61						
900 36	914.4					7.92 176.96	12.70 282.27	15.88 351.70	9.53 212.56	19.05 420.42		12.70 282.27						
950 38	965.2								9.53 224.54			12.70 298.24						
1000 40	1016.0								9.53 236.53			12.70 314.22						
1050 42	1066.8								9.53 248.52			12.70 330.19						
1100 44	1117.8								9.53 260.50			12.70 346.16						
1150 46	1168.4								9.53 272.25			12.70 351.82						
1200 48	1219.2								9.53 284.24			12.70 377.79						

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Corrosion Monitoring System