

INSTALLATION OPERATION MAINTENANCE

**FOR
CAST Y TYPE & BASKET TYPE
STRAINERS**



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PREFACE

This manual applies to the Excel Y Type and Basket Type made of Cast carbon steel Gr.WCB only.

To ensure safe and trouble free function and performance, please read all the contents of this manual before handling, transportation, mounting, operation and maintenance of strainers. Keep this manual in convenient place for your strainer operator's easy access

Caution indicates a "potentially hazardous situation which if not avoided could result in minor or major injuries and loss of life, properties etc."

This manual covers the normal usage of the product. Technical data and instructions for operation, maintenance and inspection of the product are prepared in consideration of safety. However they are good only to cover typical applications and provided as a general guideline to users. If technical assistance is required, Please contact manufacturer's Executive.

The illustrations given in this manual do not introduce all details. If more detailed data is needed, refer to the relevant strainer assembly drawings.

Note: Any information this operation provided in this operation manual is subject to revision at any time without notice. This edition cancels all previous issues.

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1. INTRODUCTION

The majority of this information is common knowledge to experienced strainer and piping component users. When properly installed in applications for which they were designed, EXCEL Y-Type and Basket Type Strainers will give long reliable service under normal conditions. This instruction manual is only a guide for installation and operation on standard service and covers general maintenance and minor repairs. An approved reconditioner should be used for reconditioning and major repairs.

Note:

We recommend that this entire document be read prior to proceeding with any installation or repair. Take no responsibility for damage or injury to people, Property or equipment. It is the sole responsibility of the user to ensure only specially trained strainer repair experts perform repairs under the supervision of a qualified supervisor.

2. RESPONSIBILITY FOR STRAINER APPLICATION:

The User is responsible for ordering the correct strainers. The user is responsible for ensuring strainers are selected and installed in conformance with the current pressure rating and design temperature requirements. Prior to installation, the strainers and nameplates should be checked for proper identification to ensure the strainer is of the proper type, material and is of a suitable pressure class and temperature rating to satisfy the requirements of the service application.

CAUTION:

- Do not use strainers in applications where either the pressure or temperature is higher than the allowable working values. Also Strainers should not be used in service media if not compatible with the strainer material of construction, as this will cause chemical attacks, leakage and strainer failure.

3. RECEIVING INSPECTION AND HANDLING:

Strainers should be inspected upon receipt to ensure:

- * Conformance with all purchase order requirements.
- * Correct type, pressure class, size, body and trim materials and end connections.
- * Any damage caused during shipping and handling to end connections, hand wheel or stem.

CAUTION:

- The user is advised that specifying an incorrect strainer for application may result in injuries or property damage. Selecting the correct strainer type, rating, material and connections, in conformance with the required performance requirements is important for proper application and is the sole responsibility of the user.

3.1 SAFETY INFORMATION:

The following general safety information should be taken in account in addition to the specific warnings and cautions specified in this manual. They are recommended precautions that must be understood and applied during operation and maintenance of the equipment covered in this I.O.M.

CAUTION:

- Never attempt to disassemble a strainer while there is pressure in the line. Ensure both upstream and downstream pressures are removed. Disassemble with caution in case all pressures are not relieved. Even when replacing stem packing, caution is necessary to avoid possible injury.
- To prevent strainer bending, damage, inefficient operation, or early maintenance problems, support piping on each side of the strainer. When handling gases/fluids that could cause damage to human health, the environment or property, the necessary safety precautions to prevent risk must be taken.
- A strainer is a pressurised mechanism containing energised fluids under pressure and consequently should be handled with appropriate care.
- Strainer surface temperature may be dangerously too hot or too cold for skin contact. Upon disassembly, attention should be paid to the possibility of releasing dangerous and or ignitable accumulated fluids. Ensure adequate ventilation is available for service.

4. STORAGE:

4.1 Temporary Storage:

If Strainers are to be stored before installation, the following should be observed

- Keep strainers wrapped and protected as shipped from the manufacturer.
- Do not remove the protective end covering until the strainer is ready for installation. This will reduce possibility of foreign material damaging the internal strainer components.
- Strainers stored outdoors should be positioned such that water does not accumulate in the strainer body.

4.2 Long Term Storage:

If Strainers to be stored more than a year, they should be prepared in the following manner.

- Remove the packing and apply a preservative to the packing chamber.
- Do not remove the protective end covering.
- Do not store strainers outside.

5. CONSTRUCTION:

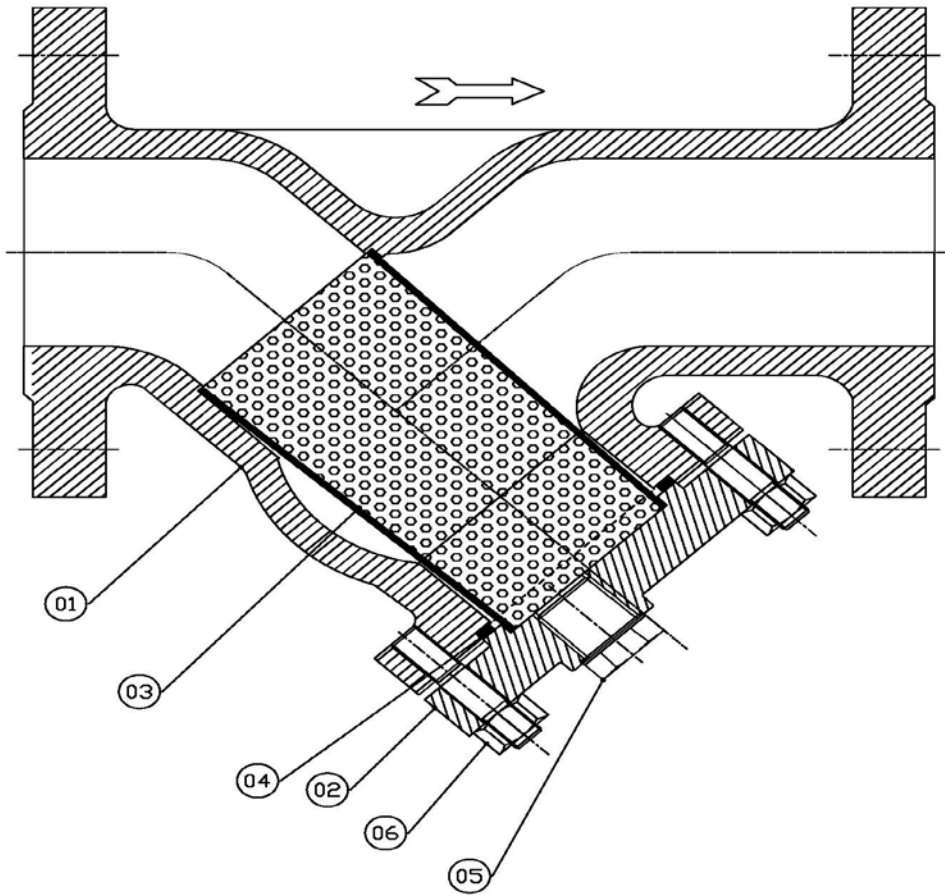
The following is a typical assembled of an EXCEL Y Type Strainer as shown in Fig.:1.1 . The number of parts will slightly vary in each size and class but the principal components are same as per fig.:1.1

6. INSTALLATION:

Y type and Basket type Strainers are unidirectional and have the direction of flow indicated on the strainer body. Excel Y Type strainers can be used for use in horizontal or vertical lines. For vertical lines can be upwards or onwards provided flow is in direction of the arrow on the body.

Preparation for installation:

- Remove protective end caps or plugs and inspect strainer ends for damage to threads, weld ends or flange faces
- Thoroughly clean adjacent piping systems to remove any foreign material that could cause damage to screening surfaces during working.
- Verify that the space available for installation is adequate to allow the strainer to be installed.



Y-TYPE STRAINER		
Sr. No.:	Part Name	Material Specification
1.	Body	ASTM A216 Gr. WCB
2.	Top Cover	ASTM A216 Gr. WCB
3.	Element	SS 304 Screen
4.	Packing	CAF/SPW- SS 304+ Graphite
5.	Drain Plug	C.S
6.	Fasteners	Gr. B7/2H

Fig.: 1.1 General Sectional Drawing- Assembled

(The above is indicative only; design depends on size, class and trims etc., Refer to as-built drawing)

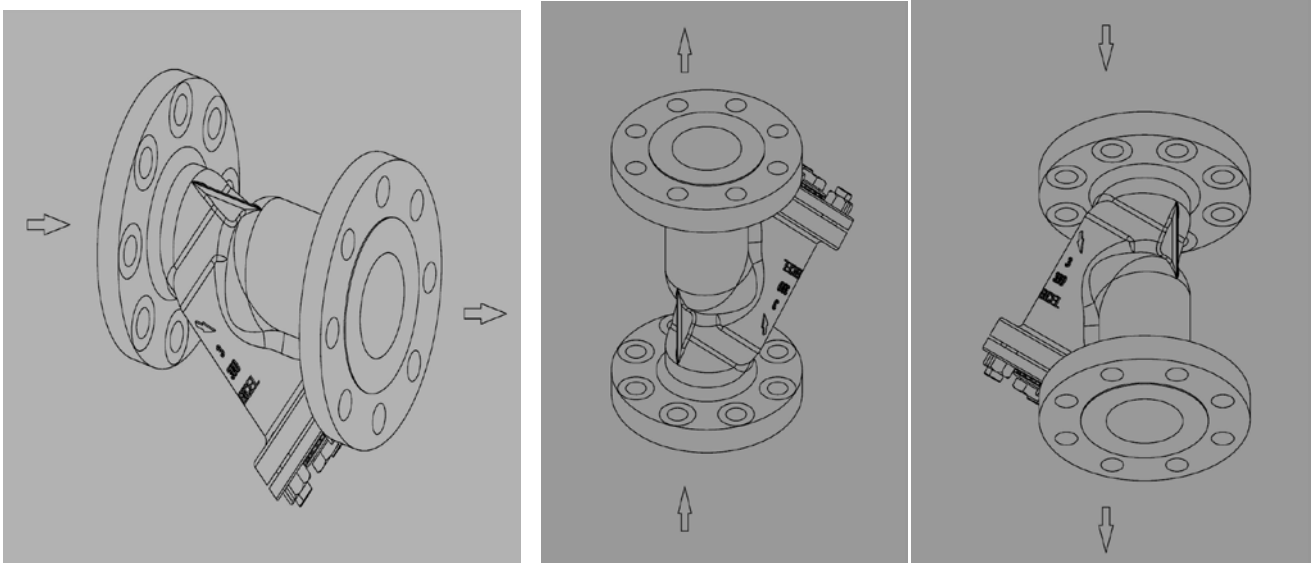


Fig.:1.2 Installation: a) Horizontal b) Vertical (Upwards Flow) c) Vertical (Downwards Flow)

6.1 END CONNECTIONS:

Threaded Ends:

Check the condition of thread on mating pipe. Apply joint compound to the male end of joint only. This will prevent compound from entering the strainer flow path.

Flanged Ends:

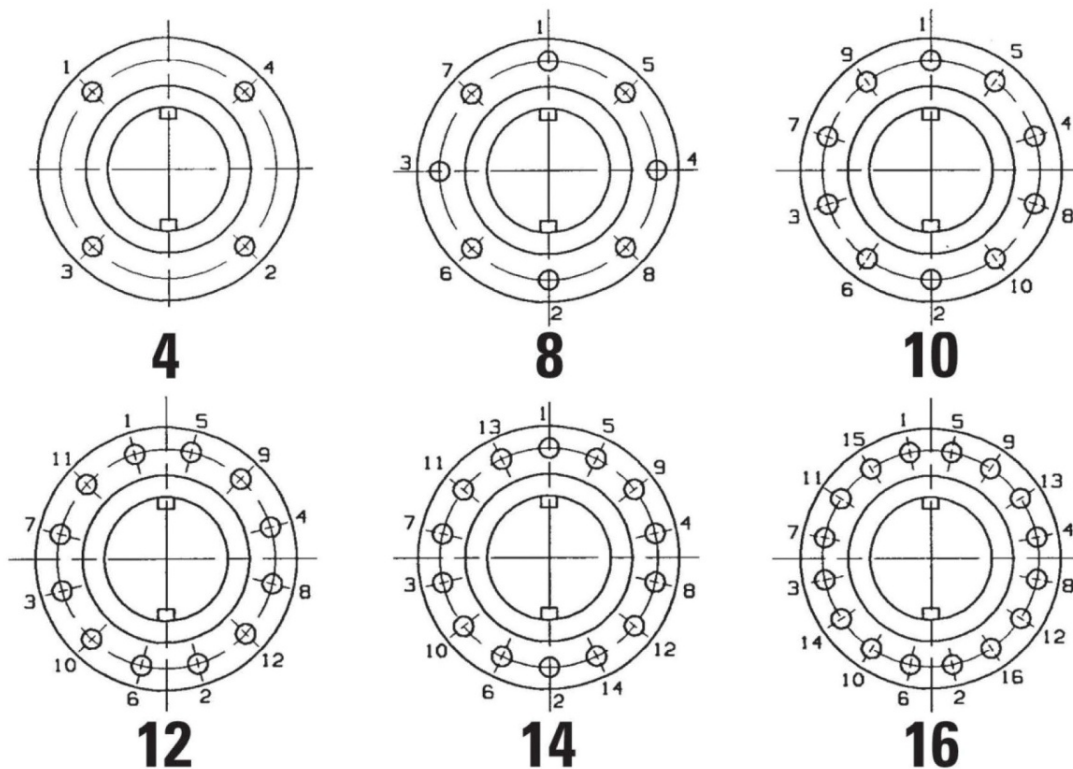
Check to see that mating flanges are dimensionally compatible with the flanges on the strainer body ensures sealing surfaces are free of debris. Install the correct studs and nuts for the application and place the gasket between the flange facings.

Caution: Stud nuts should be tightened in an opposing criss-cross pattern in equal increments to ensure even gasket compression

Socket Weld Ends:

Remove all debris, grease, oil, paint, etc., from the pipe that is to be welded into the strainer and from the strainer end connections. Insert the pipe into the strainer end connection until it bottoms out in the socket weld bore. Withdraw the pipe 1/16" So that a gap remains between the pipe and the bottom of the socket weld bore to prevent cracks (ASME B16.11). Tack the pipe into the strainer and complete the fillet weld.

Bolt Tightening Sequence



6.2 POST-INSTALLATION PROCEDURES:

After installation, the line should be cleaned by flushing to remove any foreign material. When caustics are to be used to flush the line, additional flushing with clean water is required. The strainer should be opened and cleaned after installation to ensure proper operating function. With the line pressurized, check strainer end connections, body to bonnet/cover area for leaks.

7. OPERATION:

Y Type and basket Type Strainer operation is automatic and requires no assistance. However a lower drain valve can be specified allowing the operator to drain off dirty fluid. Furthermore, a pressure gauge can be specified to monitor the strainer pressure as once the strainer becomes blocked the pressure will rise.

When the line pressurized, check the strainer end connections, body to bonnet/cover joints and bleed plugs for leaks. The bonnet bolts may have to be tightened to stop leakage.

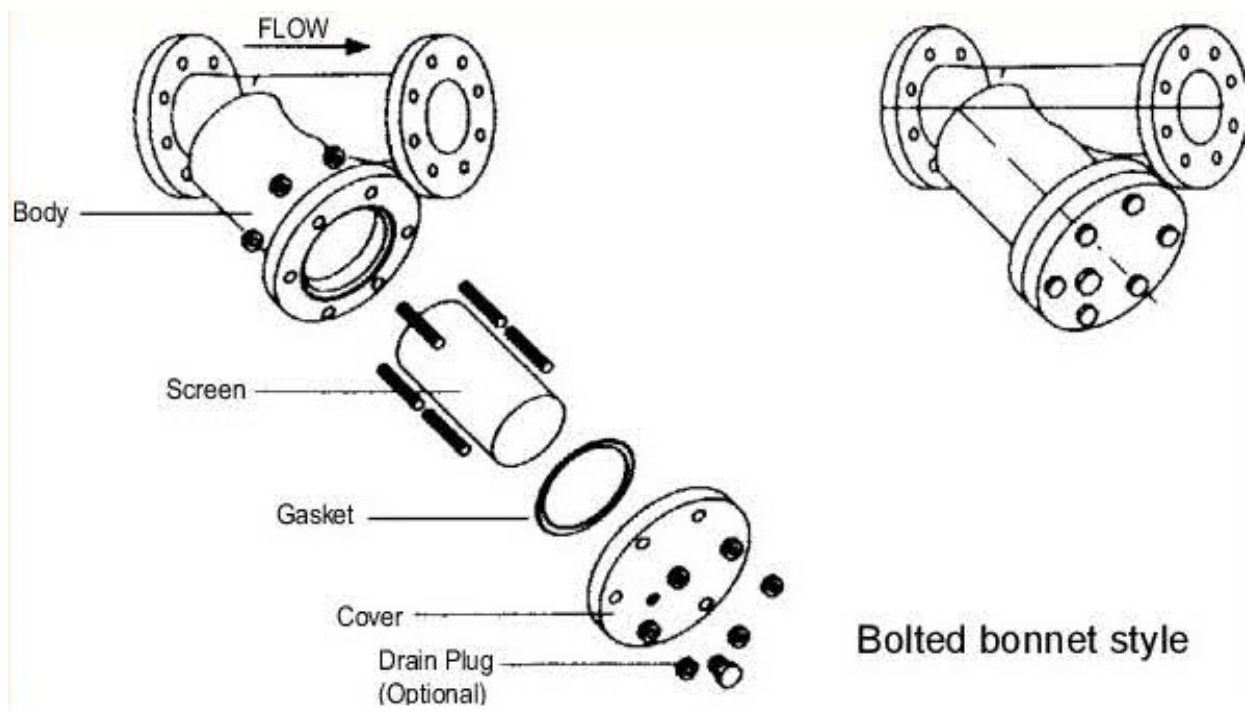
CAUTION:

- Personal injury may result from sudden release of any process pressure. EXCEL recommends the use of protective clothing, gloves and eye wear when performing any installation or maintenance.
- Isolate the strainer from the system and relieve pressure prior to performing maintenance.
- Disconnect any operating lines providing air pressure, control signals or electrical power to actuators.

8. MAINTENANCE:**FLANGED END:**

To clean the basket or Y Type Strainer Screen first isolates the strainer from the line flow. Allow retained fluid to drain, by removing the drain plug where fitted (refer figure:1.3). Remove the cover and with draw the screen. The screen can be cleaned with a suitable solvent and carefully scrubbed with a wire brush. Ultrasonic cleaning is recommended on fine mesh screens to avoid damage to filter media. Always remove all traces of the gasket and refit a new one.

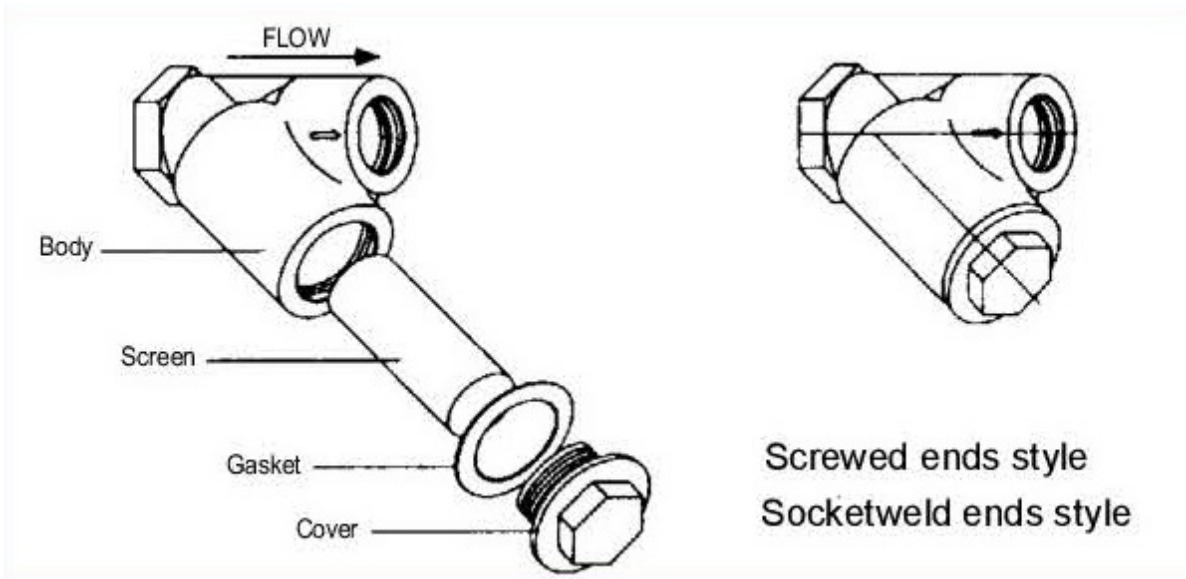
Reassembly is simply the reverse of the above procedure. However, care must be taken to seat the screen properly before replacing the cover. In some cases an O-Ring may be fitted in the screen seat area.



SCREWED END:

To clean screen first isolate the strainer from the line flow. Allow retained fluid to drain down, by removing the drain plug were fitted. Remove the cover(refer figure: 1.4) and withdraw the screen. The screen can be cleaned with a suitable solvent and carefully with wire brush. Ultrasonic cleaning is recommended on fine mesh screens to avoid damage to filter media. Always remove all traces of the gasket and refit a new one.

Reassembly is simply the reverse of the above procedure. However, care must be taken to seat the screen properly before replacing the cover. In some cases an O-Ring may be fitted in the screen seat area



Excel Brand IBR/ Non IBR Globe, Gate, Bellow Seal Valves, Ball Valves
Control Valves, Pressure regulating valves, NRV, Y Strainers, Safety Valves.

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