FLOW CONTROL/ISOLATION PRODUCTS & ANCILLARY EQUIPMENT

Express Valve Services Limited

Products & Applications

- Penstocks - Isolation/Flow Control for water and sewage
- Stoplogs & Handstops - Isolation for water and sewage
- Flap Valves - Isolation (Backflow)
- Disc Flushing Valves - Isolation for water and sewage
- Hydrostatic Draw-Off Valves - for water, sewage and sludge
- Sludge Valves & Plugs - Isolation for water, sewage and sludge
- Plug Valves - Isolation/Flow Control for water

Penstocks - General Specification

• Types of Penstock -	Conventional (Downward Closing) Weir (Upward Closing)		
• Types of Mounting -	Wall Channel Rebate Channel Side Wall Mounting (Fabricated) Flange		
• Invert Types -	Rebate Flush		
• Material Options -	Cast Iron Galvanised Mild Steel Stainless Steel (Grades 304/316)		
• Seal Material -	Copper Alloy Phosphor Bronze Resilient (UHMWP) Fabricated Penstocks		
• Stem Material -	Stainless Steel Grade 304 Stainless Steel Grade 316		
• Stem Type -	Non-Rising Rising (Preferred Option)		
• Operating Heads -	<u>Cast Iron (Wall and Flange)</u> 6 Metres on-seat 3 Metres off-seat	<u>Channel</u> Door Depth Only on/off-seat	<u>Fabricated</u> 4 Metres on-seat 4 Metres off-seat

Penstocks - Operating Conditions

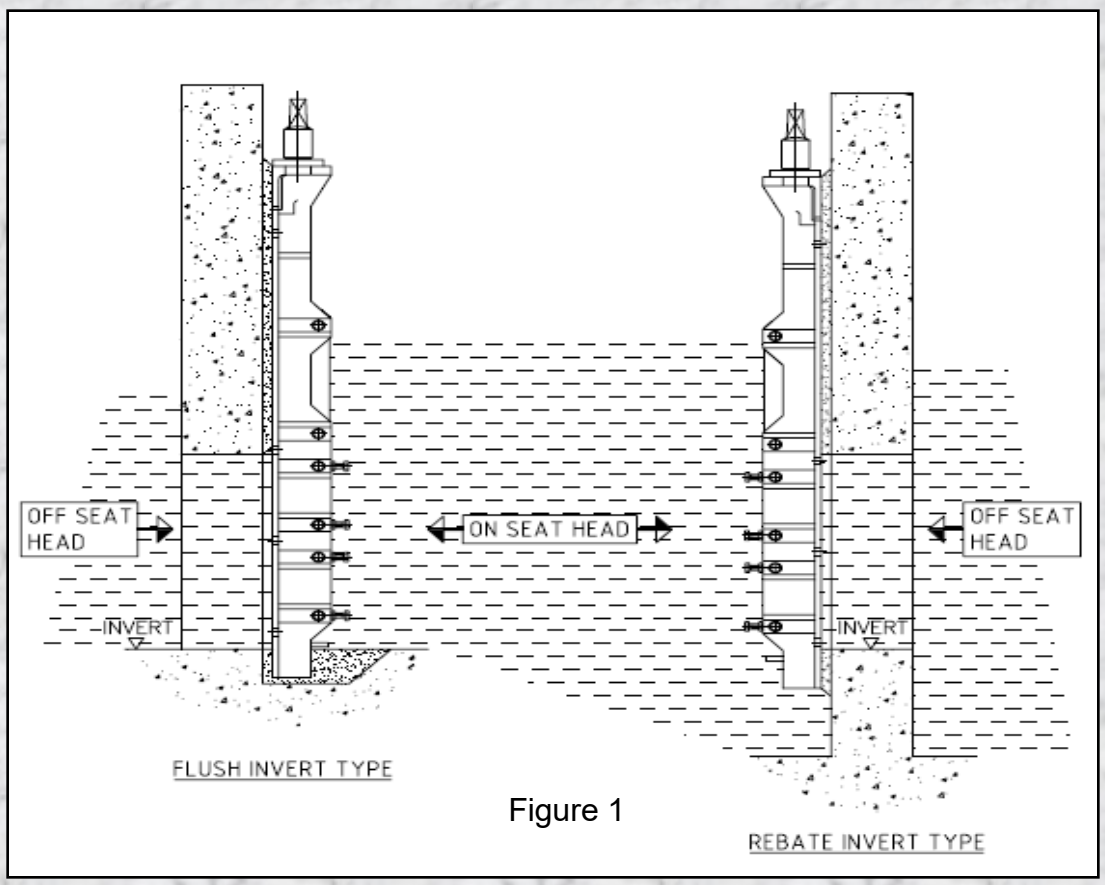
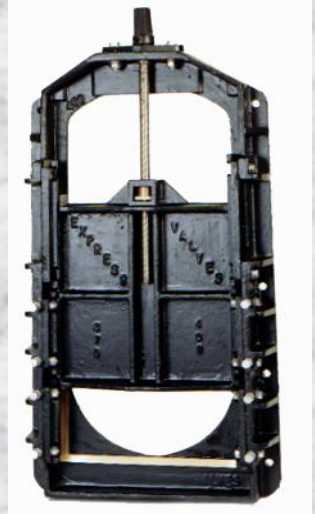


Figure 1

Figure 1 on the left illustrates a wall mounted cast iron penstock for on/off seat head conditions with Rebate or Flush invert frame types. The stem is a non-rising type with cap for tee key operation.



Penstocks - Operating Equipment

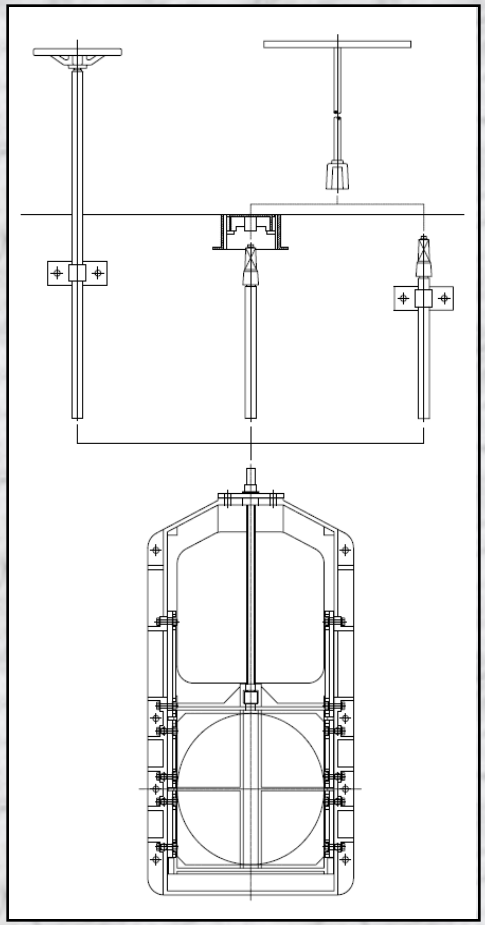


Figure 2

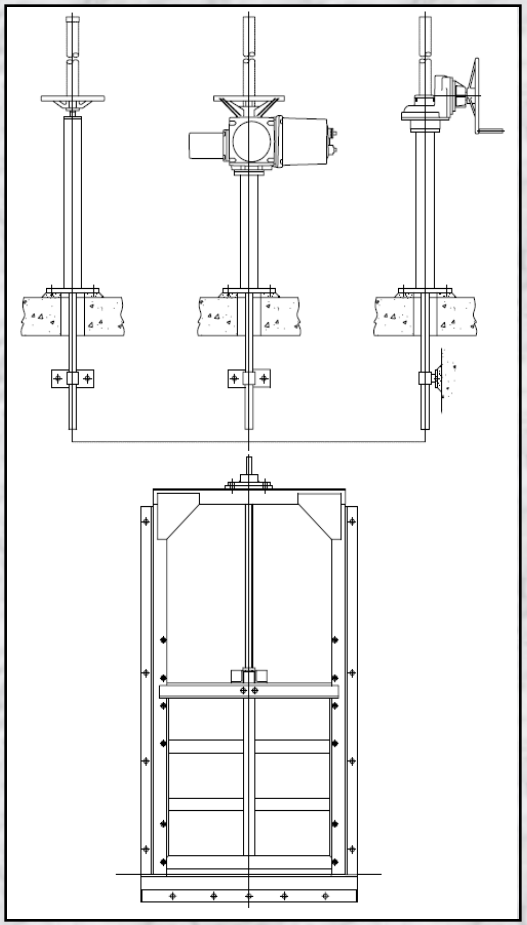


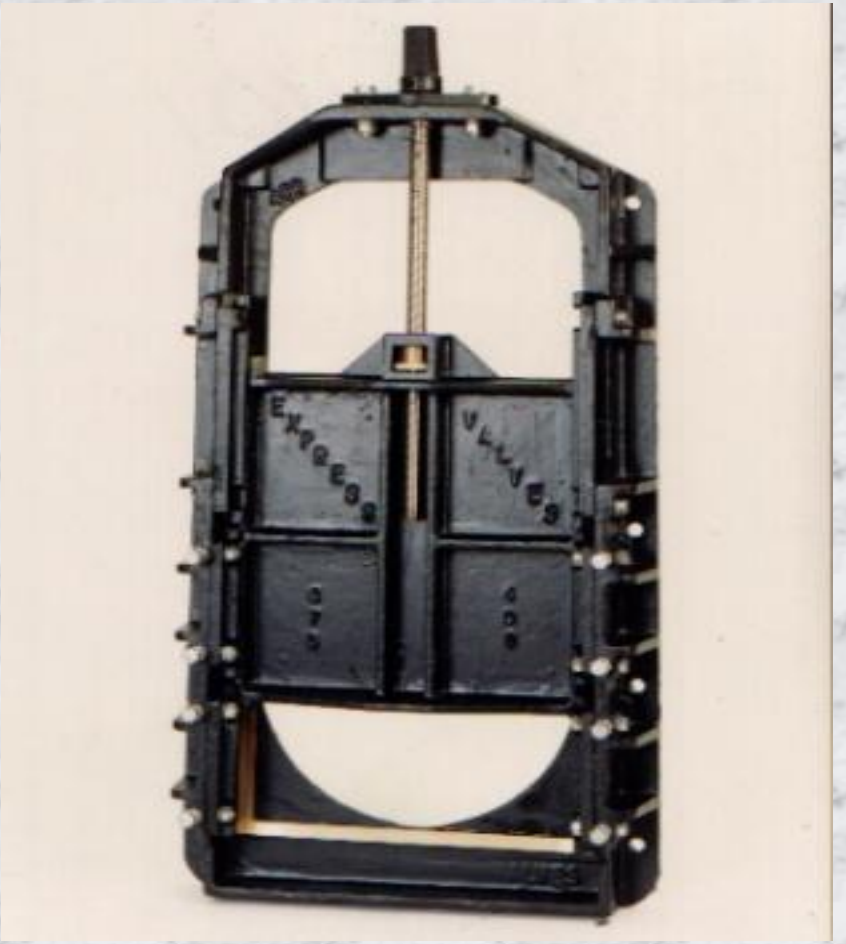
Figure 3

Figure 2 illustrates a cast iron wall mounted penstock with non-rising stem for remote operation with cap for tee key or handwheel.

Figure 3 illustrates a wall mounted fabricated penstock with non-rising or rising stem options. Remote operation by handwheel, electric actuator or bevel gearbox with handwheel and roller handle. Operators are supported on floor mounted pillars.

The operating equipment illustrated can be utilised on the majority of Express Valve Services products.

Penstock Photographs



Penstock Photographs

Stoplogs & Handstops - General Specification

Type of Mounting -	Side Wall Mounting
Invert Types -	Rebate (with flush invert) Flush Invert
Material Options -	
Frames	Galvanised Mild Steel Stainless Steel Grades 304/316
Logs (Stoplogs)	Galvanised Mild Steel Stainless Steel Grades 304/316 HMWP Aluminium
Door (Handstops)	HMWP (external reinforcement depending on size)
Lifting Methods -	
Logs	Lifting Poles Lifting Beam (for a log weight exceeding 25 Kg)
Door (Handstops)	Lifting Handle(s) Lifting Slot(s)

Stoplogs & Handstops - Mounting Options
Lifting Devices

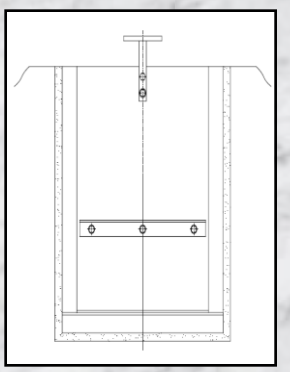


Figure 4

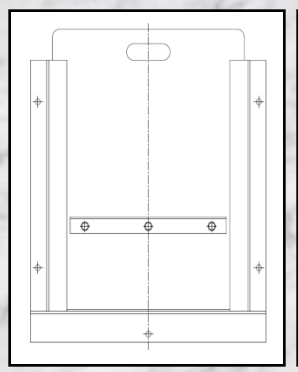


Figure 5

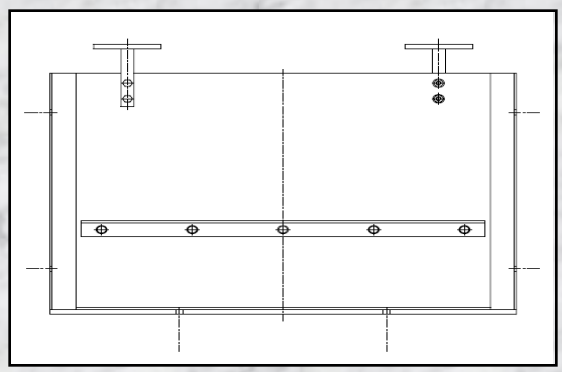


Figure 6

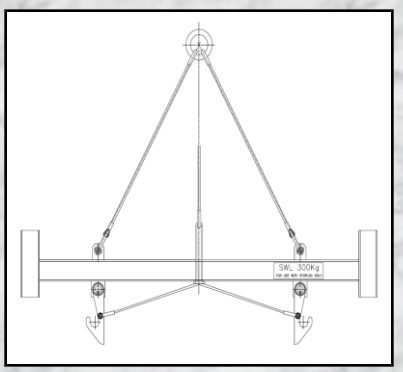


Figure 9

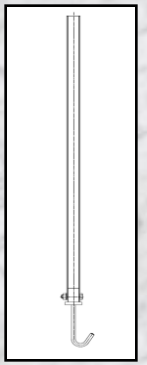


Figure 10

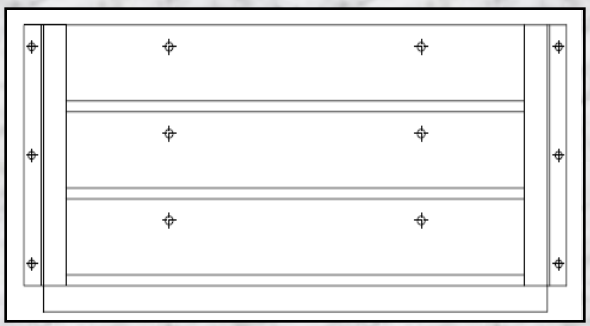


Figure 7

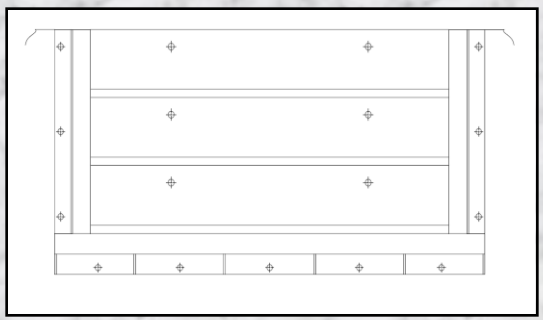


Figure 8

Mounting Options

Figure 4 - Channel rebate
Figure 5 - Wall mounted
Figure 6 - Side wall/invert fix
Figure 7 - Wall mounted flush invert
Figure 8 - Wall mounted rebate invert
Figure 9 - Stoplog lifting beam
Figure 10 -Stoplog lifting pole

The above diagrams illustrate common mounting options, however, the methods of fixing can be interchanged offering increased flexibility. The mounting options can also be applied to the range of fabricated penstocks.

Handstop Photographs

Flap Valves - General Specification

Types of Valve -	Single Hung Double Hung
Mounting Options -	Wall Flange (Circular Aperture only)
Seat Options -	Metal Resilient (Fabricated Flap Valves only)
Material Options -	Cast Iron (600mm to 2000mm sizes inclusive) Ductile Iron (80mm to 600mm sizes inclusive) Stainless Steel grades 304/316 (Rectangular Aperture) Stainless Steel grades 304/316 (Circular Aperture - 80mm to 600mm sizes) UPVC (Circular Aperture - 80mm to 600mm sizes inclusive)

Flap Valve - Options

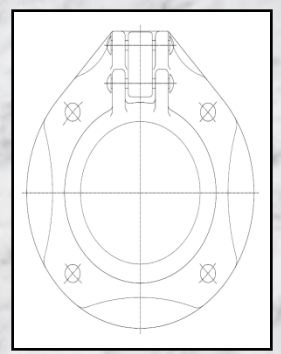


Figure 18

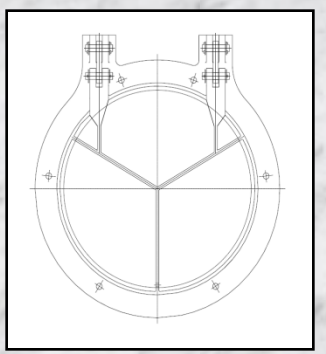


Figure 19

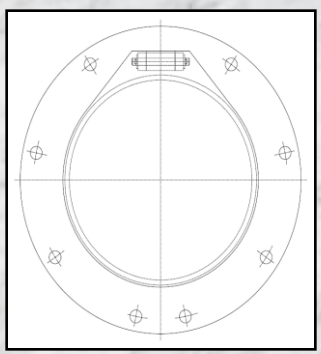


Figure 20

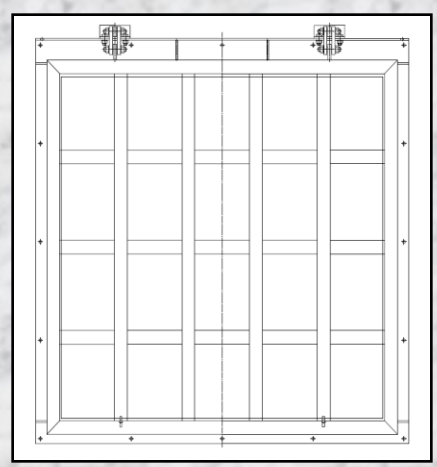


Figure 21

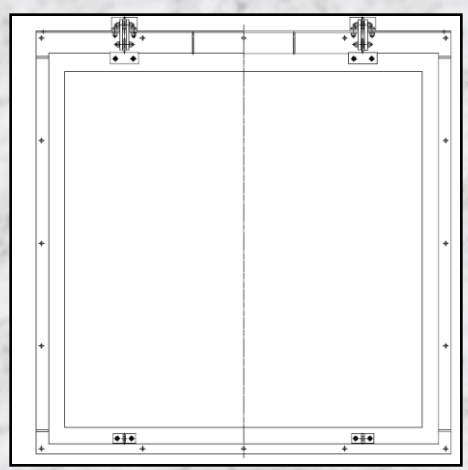


Figure 22

Figure 18 - Ductile iron double hung circular aperture flap valve with metal seats

Figure 19 - Cast iron double hung circular aperture flap valve with metal seats

Figure 20 - Fabricated stainless steel grade 304/316 and UPVC single hung circular aperture flap valve with resilient seal

Figure 21 - Fabricated stainless steel grade 304/316 double hung rectangular aperture flap valve with resilient seal

Figure 22 - Fabricated stainless steel grade 304/316 frame with HMWP flap, double hung rectangular aperture flap valve with resilient seal


EVS
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Ancillary Products - General Specification
Sludge Valves & Sludge Plugs

Types of Valve -	Sludge Plug Sludge Valve
Mounting Options -	Flange
Material Options -	Cast Iron Stainless Steel grades 304/316
Seat Types -	Flat
Seat Material -	Gunmetal Phosphor Bronze
Stem Types -	Non-Rising (Sludge Valve only) Rising Revolving (Sludge Valve only) Rising (Sludge Valve only) Lifting Handle (Sludge Plug only)
Stem Material -	Stainless Steel grades 303/316

Sludge Valve & Sludge Plug Options

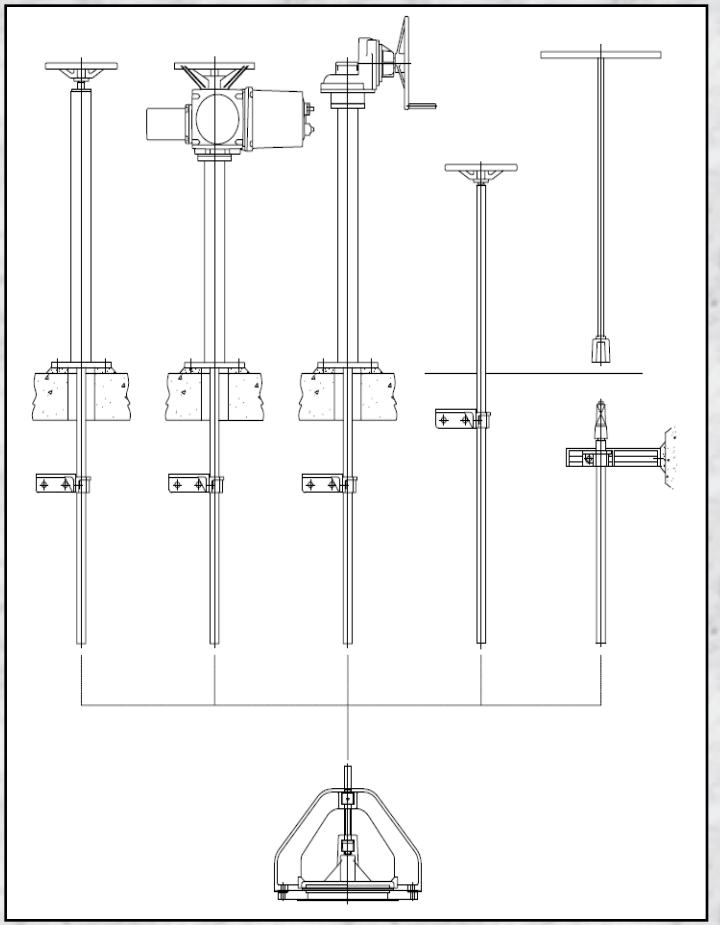


Figure 23

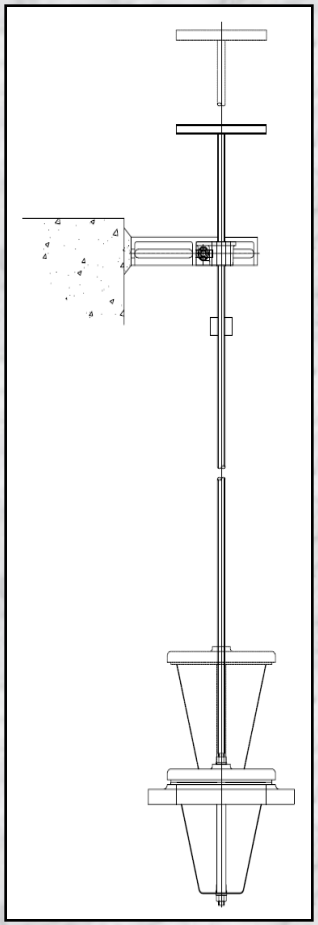


Figure 24

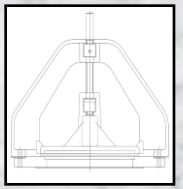


Figure 25

Figure 25 - Illustrates a non-rising stem version of the valve.

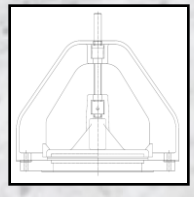


Figure 26

Figure 26 - Illustrates a rising revolving stem type, a useful indicator of the valve position.

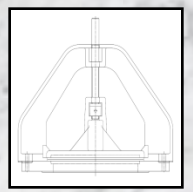


Figure 27

Figure 27 - Illustrates a rising stem version of the valve - preferred option for maintenance.

Figure 23 - Typical Sludge Valve with a selection of operating equipment.

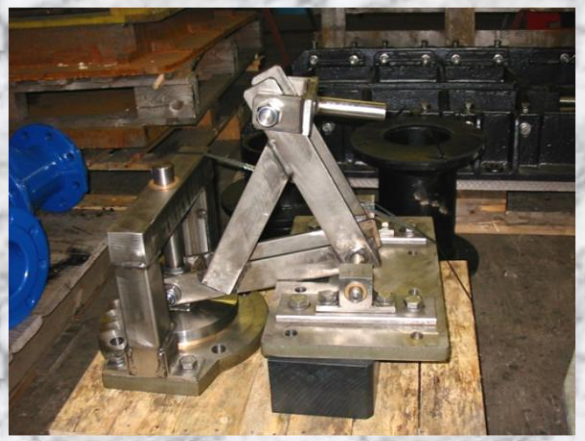
Figure 24 - Sludge Plug with lifting handle.

Sludge Valve Photograph

Sludge Valve Installation

Before

After



Hydrostatic Draw-Off Valve - General Specification

- Types of Valve - Direct Lift
  Side Discharge
  Side Lift
  Self Contained (direct lift outlet)
- Mounting Options - Flange
- Material Options - (Standpipe/Outlet) Cast Iron
  Stainless steel grades 304/316
- Stem Types - Rising
  Non-Rising
- Stem Material - Stainless steel grade 304
  Stainless steel grade 316
- Fittings Material - Galvanised Mild Steel
  Stainless steel grades 304/316

Hydrostatic Draw-Off Valve Options

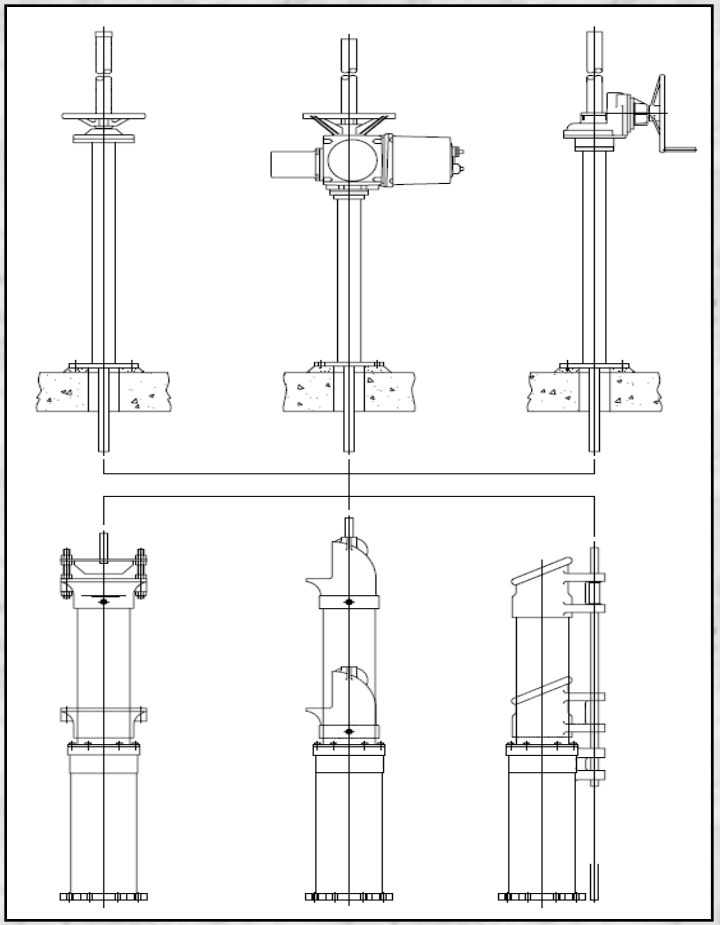


Figure 28 Figure 29 Figure 30

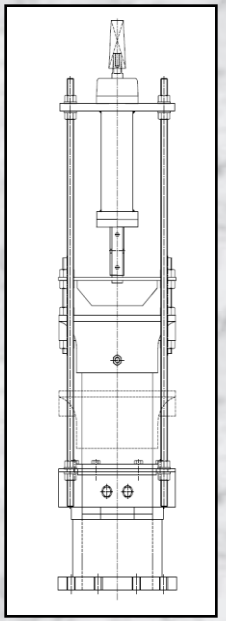


Figure 31

Figure 28 - Direct lift type Hydrostatic Draw-Off Valve.

Figure 29 - Direct lift type valve with side discharge outlet.

Figure 30 - Side lift type valve providing an obstruction free aperture outlet.

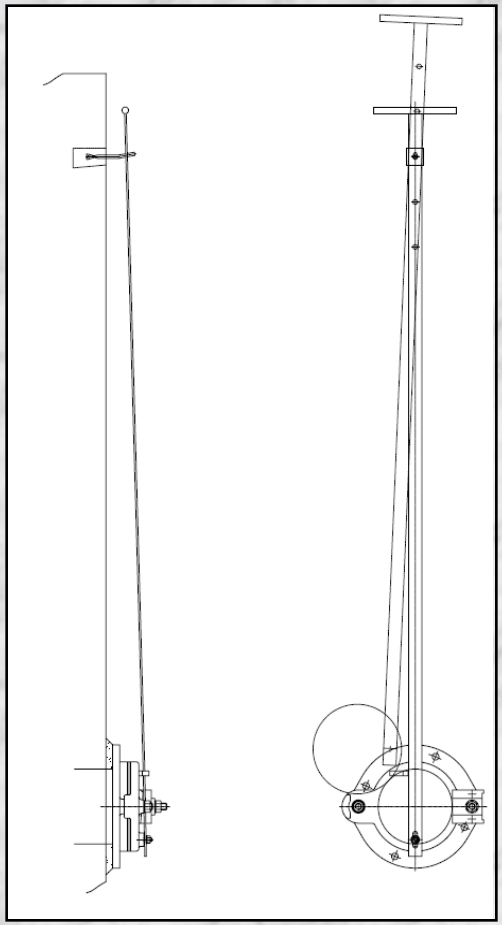
Figure 31 - Illustrates a direct lift type self contained valve with non-rising stem for operation by tee key.

Figure 32 right illustrates a 250mm bore direct lift Hydrostatic Draw-Off valve with remote handwheel and floor mounted pillar.

Figure 32

Disc Flushing Valves - General Specification

- Mounting Options - Flange
  Wall
- Material Options - Cast Iron
  Stainless steel grade 304
  Stainless steel grade 316
- Seat Material - Gunmetal
  Phosphor Bronze
- Lifting Handle Material - Painted mild steel
  Galvanised Mild Steel
  Stainless steel grade 304
  Stainless steel grade 316



Wall Mounted Disc Flushing Valve

Disc Flushing Valves - Photographs

Eccentric Plug Valves - General Specification

- Type of Valve - Two Way Port
- Material Options - Cast Iron (Body)
  Ductile Iron (Plug)
- Mounting Options - Flange
- Seat Material - Nickel
- Plug Elastomer - EPDM
  Nitrile

500mm Bore Eccentric Plug Valve

Eccentric Plug Valves - Operating Equipment Options

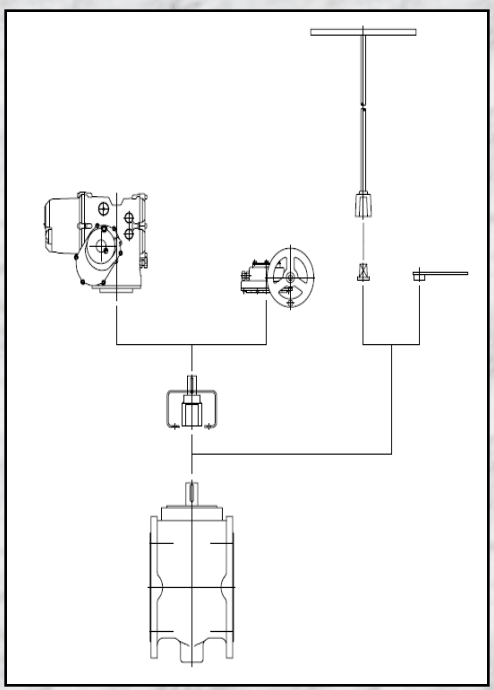


Figure 33

Figure 33 - Two way port eccentric plug valve with operator options mounted direct on the valve

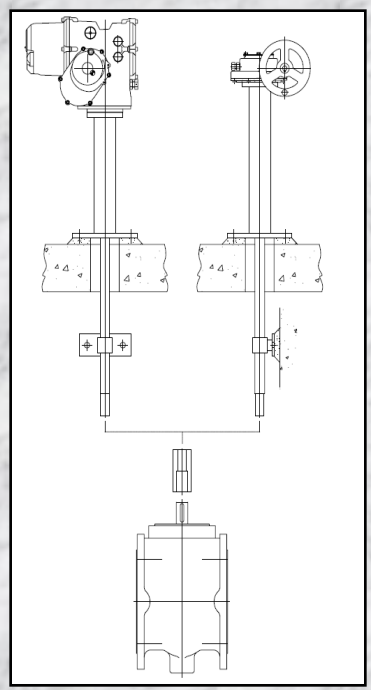


Figure 34

Figure 34 - Remote operators mounted on floor pillar

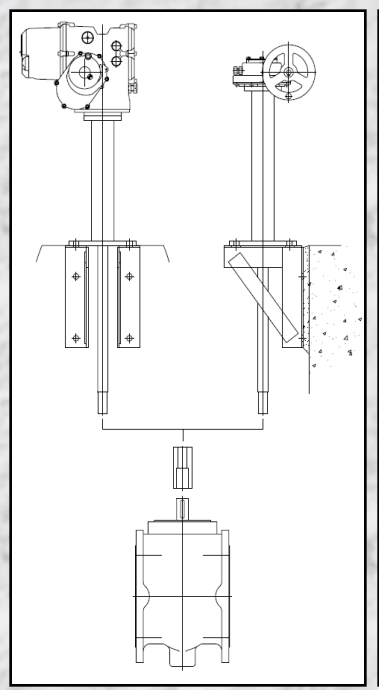


Figure 35

Figure 35 - remote operators with pillar mounted on a coping bracket

The above illustrates a three way port plug valve with a Rotork IQT series electric actuator mounted direct on the valve

Ventilators - General Specification

- Ventilator Type - Ventilating Column
  Single Outlet
  Double Outlet
- Materials - Cast Iron (Ventilating Column)
  Galvanised Mild Steel (Single & Double Outlets)
- Ventilating Column - Dirt Box
  Options Odour Filter
  Wire Crown
  Victorian Lantern

Ventilating Column

Ventilators - Options

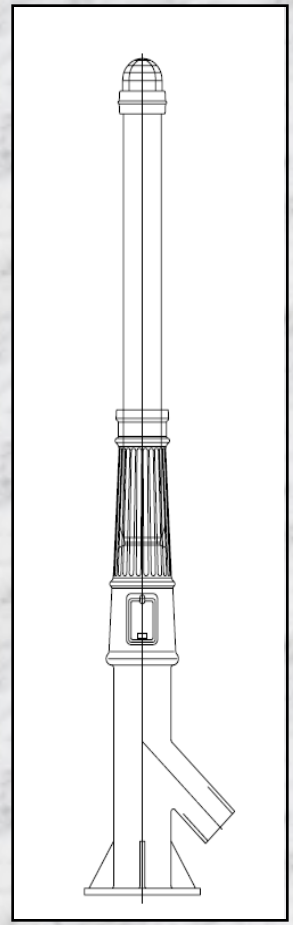


Figure 38

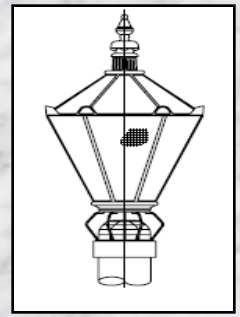


Figure 39

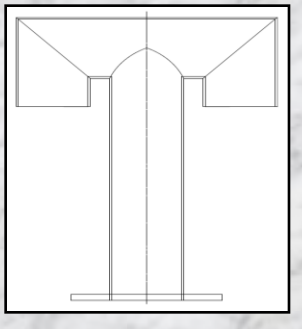


Figure 40

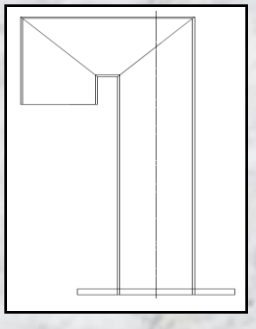


Figure 41

Figure 38 Illustrates a cast iron ventilating column with dirtbox/odour filter access and wire crown.

Figure 39 is a decorative Victorian Lantern option replacing the wire crown. The lantern is clad with a wire mesh to enable venting the sewer main.

Figure 40 Illustrates a Double Ventilator – each outlet is provided with a wire mesh cover.

Figure 41 is a single outlet version of Figure 40.