

### Lifting Guidelines Severn Globe Control Valves

#### General Warnings:

**⚠ WARNING**  
**Lifting hazard.**  
Single person lift could cause injury.  
Use assistance when moving or lifting.

**⚠ WARNING**  
**Heavy object.**  
To avoid muscle strain or back injury, use lifting aids and proper lifting techniques when removing or replacing.

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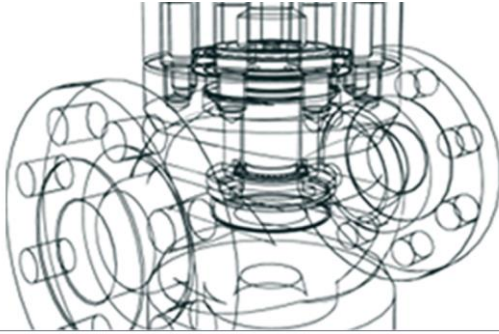
**⚠ CAUTION**  
**Heavy object.**  
Can cause muscle strain or back injury.  
Use lifting aids and proper lifting techniques when removing or replacing.



Always wear appropriate PPE and ensure that the local lifting plan is followed



Always ensure a safe working environment when lifting  
If in doubt, ask the lift supervisor / appointed person



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### Lifting equipment safety:

As the duty holder you should make sure that all employees likely to use lifting equipment, understand and follow these dos and don'ts:

#### Do...

- ✓ Check the equipment is well maintained and fit to be used, appropriate for the job, working properly and all the safety measures are in place.
- ✓ Make sure all parts, including attachments, can accommodate the load weight.
- ✓ Use the equipment properly and in accordance with the manufacturer's instructions.
- ✓ Make sure employees are wearing the appropriate protective clothing and equipment required for that machine, such as safety glasses, head protection and safety shoes.

#### Don't...

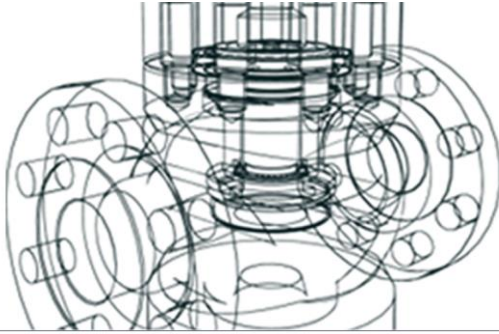
- × Use equipment that has a danger sign or tag attached to it. Danger signs should only be removed by an authorised person who is satisfied that the equipment or process is now safe;
- × Remove any safeguards, even if their presence seems to make the job more difficult;
- × Wear dangling chains, loose clothing, rings or have loose long hair that could get caught up in moving parts;
- × Distract people who are using equipment.

### Safe lifting by machine:

If you are an employer or a self-employed person providing lifting equipment for use at work, or if you have control of the use of lifting equipment, you must make sure it is safe. Think about what risks there may be and how they can be managed. For example:

- Damage or deterioration of the equipment or attachments caused by wet, abrasive or corrosive environments.
- Trying to move weights that are too heavy and exceed the load limit of the machine.
- Equipment failure.
- Untrained workers planning the lift or using the equipment.
- People being struck by moving parts of the equipment or by things falling.

Safe lifting needs to be properly planned by a competent person, appropriately supervised and carried out safely. Any equipment you use must have been properly designed, manufactured and tested and be in good order.



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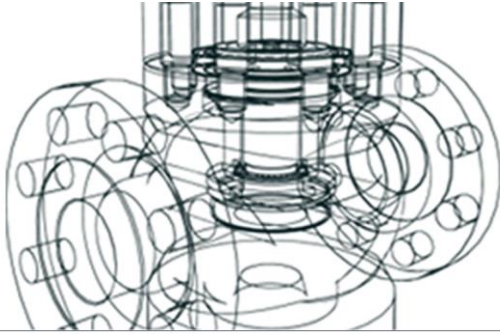
### Dos and don'ts of lifting safely:

#### Do...

- ✓ Use only certified lifting equipment, marked with its safe working load, which is not overdue for examination.
- ✓ Keep the reports of thorough examination as well as any declarations of conformity or test certificate.
- ✓ Make sure the load is properly attached to the lifting equipment. If necessary, securely bind the load to prevent it slipping or falling off.
- ✓ Before lifting an unbalanced load, find out its centre of gravity. Raise it a few inches off the ground and pause – there will be little harm if it drops.
- ✓ Use packaging to prevent sharp edges of the load from damaging slings and do not allow tackle to be damaged by being dropped, dragged from under loads or subjected to sudden loads.
- ✓ When using jib cranes, make sure any indicators for safe loads are working properly and set correctly for the job and the way the machine is configured.
- ✓ Use outriggers where necessary.
- ✓ When using multi-slings make sure the sling angle is taken into account.
- ✓ Have a responsible slinger or banksman and use a recognised signalling system.

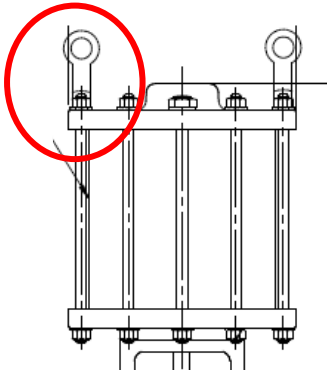
#### Don't...

- × Use unsuitable equipment, eg makeshift, damaged, badly worn chains shortened with knots, kinked or twisted wire ropes, frayed or rotted fibre ropes.
- × Exceed the safe working load of machinery or accessories like chains, slings and grabs. Remember that the load in the legs of a sling increases as the angle between the legs increases.
- × Lift a load if you doubt its weight or the adequacy of the equipment.

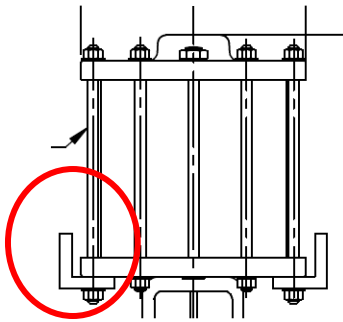


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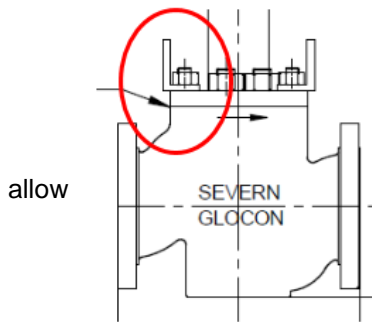
#### Lifting Lug Types:



Eyebolts – Used on small, lightweight valves



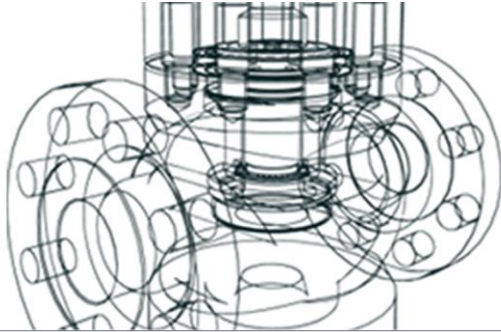
Actuator Lugs – Low to medium weight valves



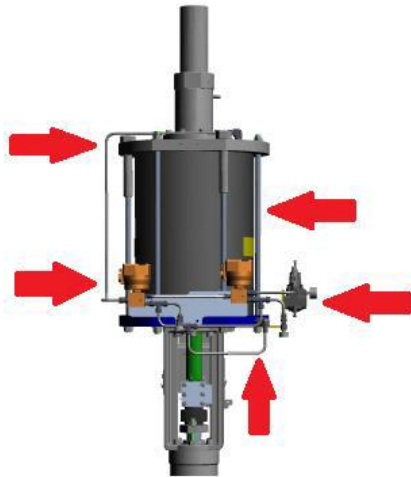
Valve Body Bolt on Lugs – Used where the weight of the valve is too significant to the valve to be lifted using the actuator as an anchor point



Cast in Lugs – Used on valves greater than or equal to 14" in size. These lugs are a contiguous part of the valve body



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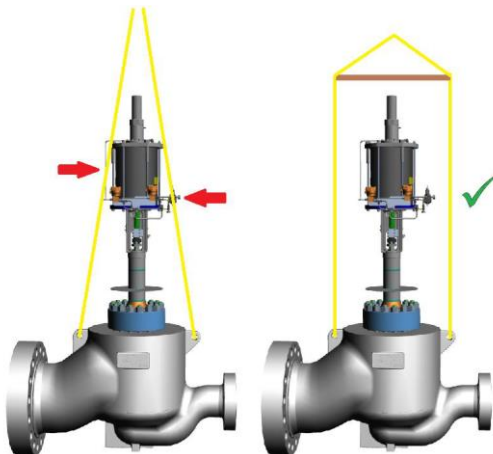
#### Handling:

Care must be taken in the proper handling of valves to prevent damage. Valves should never be thrown or dropped

Lifting the valve by the stem or yoke is not advisable and, for larger valves, lifting the valve by the hand wheel or the packing gland flange is not recommended

Good judgment should be exercised in selecting a lifting device that will safely support the unit's weight

**Caution: Never lift the valve by the tie rods, ancillary items, piping or any items of bracketry and always ensure that these cannot be damaged or bent by process of the lifting, as improper operation of the valve in service may be the result**



#### Ancillary Items and Handling Risk:

Take care to ensure Ancillary items cannot be damaged during lifting and handling as these parts are often more fragile. Use items such as spacer bars when necessary (note: front and back lifting not shown to simplify drawing)

#### Installation Notes:

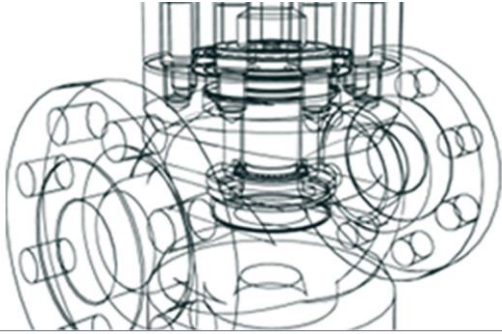
Although valves are shipped in a clean condition, prior to installing the valves, examine the lines and the valve ports for foreign matter and clean them thoroughly if they have been exposed to the elements. (Note: Always check before cleaning to ensure compliance with the site standard)

Ensure that there is no line sag at the point of installation. Eliminate any pipeline deviation by the proper use of pipeline hangers or similar devices

Valve should be blocked or slung into position with apparatus that is sufficient to hold the valve assembly weight

Always make sure that the valve is fully supported during installation and do not remove supports until all bolting is complete.

**Caution – Do not use the valve flange to pull piping into alignment. This can put stresses into the flanges for which they are not designed and will nullify any warranty.**

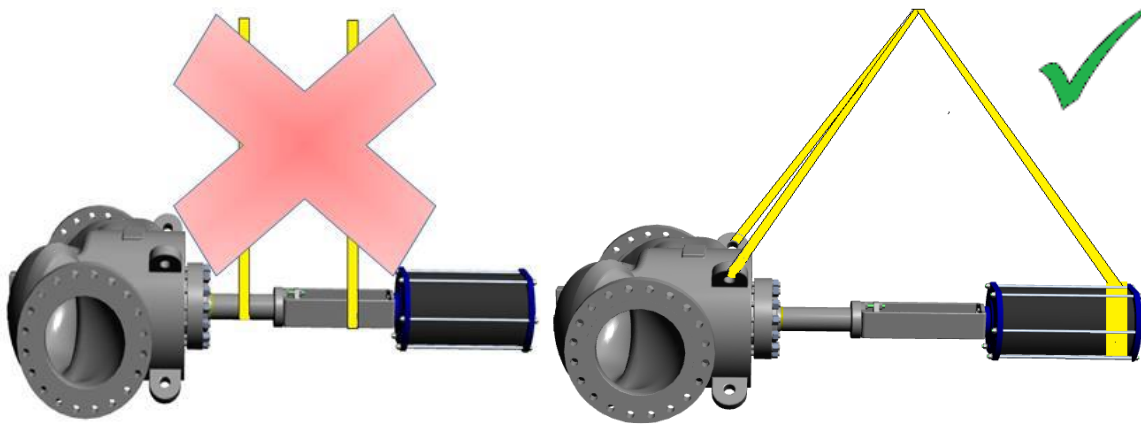


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### Horizontal Lifting and Turning

Ensure that the valve is free of all crating lockdown mechanisms before attempting any lifting as damage may result if still affixed to crating.

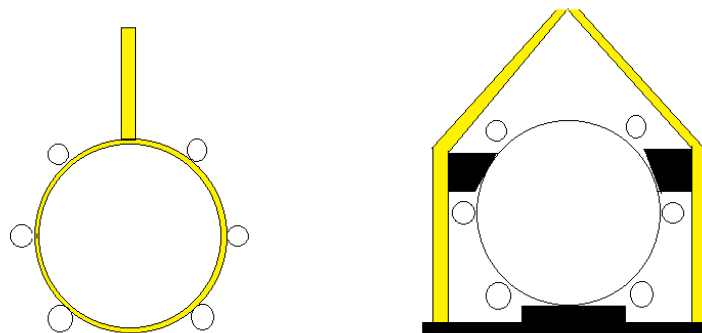
#### Lifting:

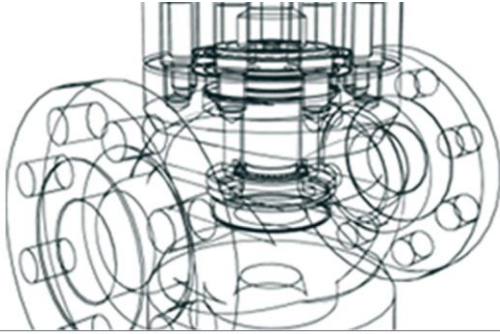


Do not lift using only the stem or yoke

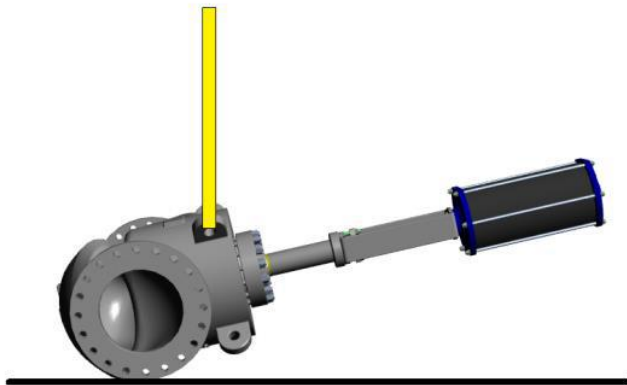
Correct lifting showing body lifted and actuator supported

**Note:** that actuator strap is under the tie rods. Alternatively blocks may be used to allow the strap to go around the rods without putting stress on them as follows:





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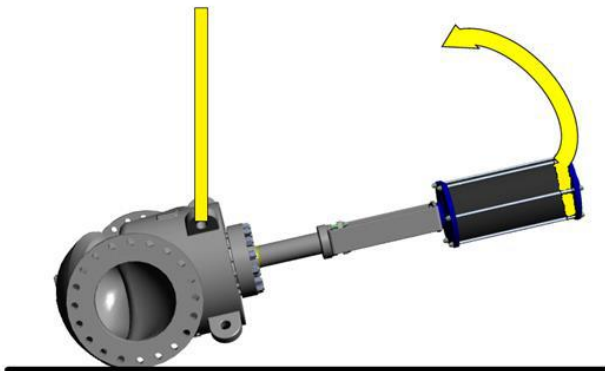


### Turning when centre of gravity below top of body:

Normally the centre of gravity of the valve will be within the body. With valve body resting on ground, the valve may be lifted to its vertical position using the lifting lugs provided.

**Caution – sometimes, with long extensions and / or heavy actuators, the centre of gravity may be higher. Care should be exercised to check centre of gravity on drawings as part of the site's lifting plan preparations**

**Caution – do not release slings around the actuator used during horizontal lifting until there is appropriate support beneath the actuator in case it overbalances, as damage to accessories and piping in particular may result**



### Turning when centre of gravity is above top of body:

With valve body on ground and supported, slowly apply force to the actuator to move the valve to the vertical position

Ensure that the straps on the actuator cannot slip and also that the tie rods are free (see previous caution) and that accessories and piping cannot be fouled as part of the process as damage may result

**Caution: during horizontal to vertical lift where lifting via actuator is not appropriate (heavy valves); care should be taken to ensure that the full weight of the assembly cannot be transferred to the actuator stop at the tipping point**

## Typical Method Statement for Lifting and Turning Valves:

### 1.0 Introduction

This method statement details the methods for the controlling and turning of Control Valves up to 3 tonne using the tandem crane and the personnel who have responsibility for executing the lift.

### 2.0 Personnel

The following personnel shall be actively involved with either conducting or supervising the lift.

Appointed Person: Supervising Lift

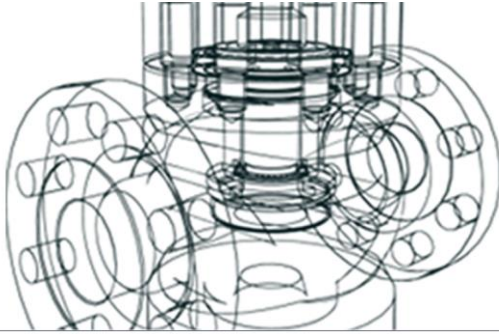
Crane Operator: Operation of Crane

### 3.0 Risk Assessment

Lift shall be carried out in conjunction with the relevant risk assessments.

This shall include but is not limited to:

- RA14. Movement of Products and Materials by Overhead Crane



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### 4.0 Policies

Lift shall be carried out in conjunction with the relevant policies.

This shall include but is not limited to:

SG/OP/524 Inspection of Lifting Equipment

SG/OP/525 Use of Cranes

### 5.0 Method Statement

#### 5.1 Vertical to Horizontal

- Lift area shall be controlled
- Lifting Equipment and accessories shall be subject to pre use check
- Lifting equipment shall be manoeuvred into position
- Lifting equipment shall be positioned perpendicular to the lifting points.
- Lifting tackle shall be attached to the lifting lugs and / or slinging points and lifting equipment.
- Lift Actuator to clear valve from ground.
- Lift Body to clear valve from ground.
- Lower actuator until valve is in horizontal position.
- Lower valve and actuator onto suitable base / floor.
- Valve and Actuator to be de-rigged
- Lifting Equipment and Accessories shall be returned to a suitable storage area

#### 5.2 Horizontal to Vertical

- Lift area shall be controlled
- Lifting Equipment and accessories shall be subject to pre use check
- Lifting equipment shall be manoeuvred into position
- Lifting equipment shall be positioned perpendicular to the lifting points.
- Lifting tackle shall be attached to the lifting lugs and / or slinging points and lifting equipment.
- Lift valve and actuator using both cranes simultaneously to clear floor.
- Either lower body or raise actuator until valve is in vertical position.
- Lower actuator crane until valve is securely on floor or in suitable clamping arrangement such as V Blocks
- Valve and Actuator to be de-rigged
- Lifting Equipment and Accessories shall be returned to a suitable storage area

### Personal Protective Equipment (PPE)

The following PPE must be worn at all times:

Safety Boots / Shoes

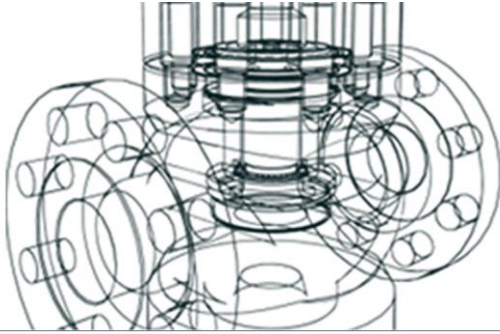
Safety Glasses

Gloves may also be worn, particularly in very cold conditions

**Note: It is the responsibility of the end user site lift leader / appointed person to make sure that an adequate lifting plan & risk assessment has been considered and implemented before any lifting takes place. Further, Severn Glocon assumes no liability or responsibility for the safe handling of valves at site by contractor or end user personnel.**

**These guidelines are for guidance only and should be used in conjunction with site, local and international guidelines and regulations for the safe lifting and transport of equipment at site. This document contains public sector information published by the Health and Safety Executive and licensed under the Open Government Licence.**





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### SEVERN CONTACT DETAILS

#### **Severn Glocon Valves PVT Limited (Unit 1)**

F96/97, SIPCOT Industrial Park,  
Irungattukottai, Chennai:602117  
India  
T: +91(0)44 67102300 / 67102800

#### **Severn Glocon Valves PVT Limited (Unit 2)**

A-50, SIPCOT Industrial Growth Center,  
Oragadam, Chennai:602105  
India  
T: +91(0) 44 67123200

#### **Severn Glocon UK Valves Limited**

Olympus Park, Quedgeley,  
Gloucester GL2 4NF  
United Kingdom  
T: +44(0) 845 223 2040

E: [sales@severnvalve.com](mailto:sales@severnvalve.com)  
[marketing@severnvalve.com](mailto:marketing@severnvalve.com)

W: [www.severnvalve.com](http://www.severnvalve.com)

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