



**Bulk Solids Handling Equipment**

Reg. No. 993360 England

VAT Reg. No. GB 2580681 45

**Rota Val Ltd**

Bumpers Way

Bumpers Farm Industrial Estate

Chippenham Wiltshire

England SN14 6LH

Tel:+ 44(0) 1249 651138

Fax:+ 44(0) 1249 657898

Fax (Sales): + 44(0) 1249 462054

E-mail: sales@rotaval.co.uk

Web site: www.rotaval.co.uk

# INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS TYPE 'CLV' SLIDE VALVE

'CLV' Slide Valves are designed for a wide range of applications, from Food to Heavy Duty Industries including Cement, Chemicals, Mining, Sewage Treatment and many more.

If the recommendations are not followed correctly, there may be a risk of damaging the joints and preventing a complete seal during the operation of the valves.

## HEALTH AND SAFETY

The valve contains moving parts that can be injurious, it is the responsibility of the system installer/user to ensure the safe installation and operation of the valve.

In particular it must be adequately protected and guarded  
**IN COMPLIANCE WITH YOUR LOCAL HEALTH AND SAFETY REGULATIONS.**

Do not operate the valve with any part of it removed.  
Only competent persons must be used to maintain the valve.

**IT IS THE RESPONSIBILITY OF THE PURCHASER/USER OF THIS EQUIPMENT TO ENSURE THAT THESE HEALTH AND SAFETY INSTRUCTIONS ARE PASSED ON TO THOSE PERSONS LIKELY TO BE AT RISK.**

**IMPORTANT: ALWAYS QUOTE THE VALVE SERIAL No: IF FURTHER INFORMATION OR SPARE PARTS ARE REQUIRED.**

## RESIDUAL HAZARDS

The valve is intended for installation in fully enclosed pipework and must not be used whilst any of the connection ports remain unconnected.

## NOISE

No account can be taken of the noise level associated with the conveying of product due to the variations in the applications and the number of products handled. For actual noise levels, measurement must be made on site, under operating conditions, in accordance with local Health and Safety guidelines.

## HANDLING

The valve should remain in its packaging until ready for assembly into the system, as such; it may be moved using suitable handling equipment, for example pallet or fork lift trucks. Prior to installation remove all packaging.

## STORAGE AND TRANSPORT

The knife (2), spindle and stem should be kept dust-free and clean at all times and dry paper should be used to cover the surface on the valve or plugs to protect the threaded holes, during long storage periods.

When the valves are stored in a damp environment for long periods of time, we recommend lubricating the movable parts.

## DESCRIPTION OF THE PRODUCT

DESCRIPTION
CLV KNIFE GATE VALVE

- ◆ Knife type extra-flat gate.
- ◆ "Monobloc" body (1), cast in one piece, wafer type, with blind and through type holes.
- ◆ Operated by hand-wheel.
- ◆ Installation between flanges DIN PN10.

## INSTALLATION AND START UP

If the valve has been in storage for a long period of time, take off all protectors and perform some test operations.

The valve is provided with an arrow cast on the body to show the pressure direction. When considering installations with liquid or slightly charged fluids, the valve should be installed in such a way that the direction of the flow coincides with the direction shown by the cast arrow; i.e. with the fluid effecting pressure on the seal joint. Only in installations working with solids or when the product may tend to stick and cause obstructions, should the valve be mounted in reverse, but, always following the advice of our technical department (Tel: +44 (0) 1249 651138).

**When the valve is provided with a "reinforced socket" or any other special type of socket, or for valves with a "V"-notch for regulation, special care should be taken when mounting them; we recommend you seek advice from our technical department (Tel: +44 (0) 1249 - 651138) before proceeding with the mounting of these valves. Provide a thorough description of the working conditions in the installation such as: type and direction of the fluid, pressure, valve position, etc.**

Check the correct alignment of pipelines and parallelism of the flanges in between which the valve is mounted. Any external strain may have an adverse effect on the correct performance of the valve. If a lack of strain cannot be guaranteed, then, an expansion joint should be fitted (see mounting detail - Figure 1).

Firstly, the valve should be placed between the two flanges and fixed by tightening the **'through'** bolts firmly. Then, a gradual, progressive and even pressure should be applied on the bolts into the blind threaded holes in the valve, paying special attention that the **"bolt ends do not bottom any of the blind holes"**.

Once the mounting is complete, an operational test should be performed by opening and closing the valve several times.

The sealing areas on the valve will be verified by testing the valve with the product. If any leakage through the flange connection joint is detected, the **'through'** bolts should be tightened firmly first, and then also, the bolts in the blind threaded holes in the valve. In either case the tightening **torque should not exceed the following figures:**

DN	MAXIMUM TORQUE
50 - 80	25 Nm
100 - 125	30 Nm
150 - 200	35 Nm
250 - 300	45 Nm
350 - 600	50 Nm
700 - 1000	60 Nm

These are the **maximum tightening torque's recommended** for pressure valves under or equal to the standard design pressure rates. Use the minimum tightening torque rate to prevent leakage through the face of the valve.

#### MAINTENANCE

The main elements that require maintenance on the valve are the packing (4) and the seal joints, also the internal seal joints in the pneumatic actuator also require regular maintenance.

1. On the manually operated valve, we recommend lubricating the yoke nut at least once a year. The hand-wheel is provided with a grease nipple at the yoke for this purpose.
2. **To replace the packing:-**
  - ◆ Take the pressure off the line and close the valve.
  - ◆ Pull out the gland (3) by loosening the nuts that keep it fixed to the bolts. With the help of a pointed tool, the packing and 'o'-ring will be easily removed from the packing case.
  - ◆ Replace the packing in the same sequence on which the original elements were inserted and taking care to prevent the packing from coinciding on the same side for the different packing cord levels. The 'o'-ring may be fitted around the knife with the help of a handspike and then pushed down into its housing.
  - ◆ After spreading the packing evenly within its housing, tighten the nuts on the gland uniformly. Once the line is pressurised again, verify any possible leakage and keep tightening the gland uniformly until no leakage is detected.
3. **To replace the seal ring:-**
  - ◆ Lift the knife until the valve opening is completely clear.
  - ◆ On a standard valve, the socket (5) is set into place by applying some pressure. To pull it out, a pointed tool should be edged in to allow applying pressure from the socket side towards the supporting end. When the valve is supplied with a reinforced socket, this socket is fixed onto the valve by screws from the outer part of the valve; after loosening these screws, the socket can easily be pulled out.
  - ◆ Once the socket has been pulled out, the seal ring (5) can also be removed. The seating area should then be cleaned up with a clean cloth and a new original seal ring fitted back into place.
  - ◆ Put the socket back into its original position, take care not to damage the new seal ring during this procedure.

#### DISPOSAL

The valve may be removed from its installed position using slings as specified in "Handling" section. For disposal purposes, the parts list, Figure 2, specifies material content, components may be recycled, reused or destroyed as dictated by local or national regulations.

Juntas (de 3 mm.) entre válvula y bridas.  
 Joints (3 mm.) between valve and flanges  
 Bridas flotantes o bridas soldadas.  
 Loose flanges or soldered flanges.

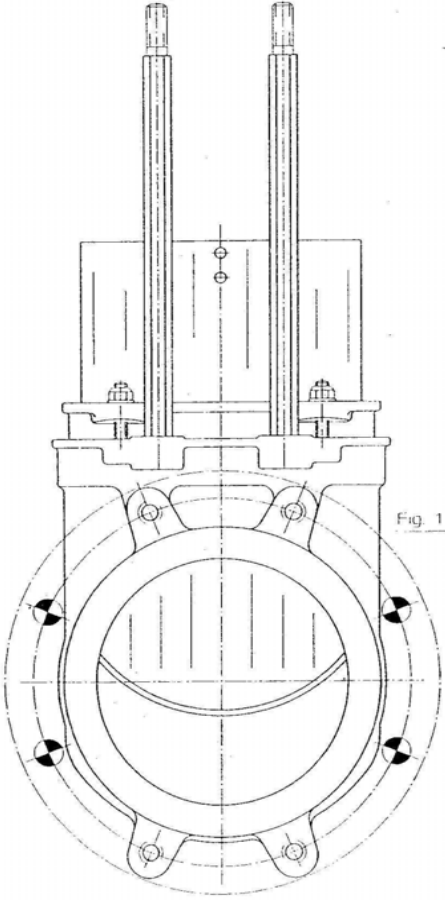


Fig. 1

Tubería / Pipe  
 Válvula / Valve  
 Carrete dilatación / Expansion joint

Fig. 2 Montaje correcto / Correct mounting

Fig. 3 Montaje defectuoso El intervalo entre la brida y la válvula provocan una tensión.  
 Faulty mounting The interval between the flange and the valve builds up a tension.

Fig. 4 Montaje defectuoso. Mala alineación de las bridas.  
 Faulty mounting Bad alignment of flanges.

Las válvulas VADE para pasta, se instalan fácilmente en las tuberías. Son estrechas, ligeras, tienen un caudal limitado y están previstas para ser montadas entre bridas.

**IMPORTANTE:** La válvula dará buenos resultados si las instrucciones siguientes son observadas rigurosamente:

- 1 - Primeramente, posicionar la válvula utilizando los bulones laterales.
- 2 - Luego atornillar los pasadores en los agujeros taladrados del cuerpo de la válvula.

Ver montaje correcto de una válvula VADE en la fig. 2.

Fig. 3. Un montaje defectuoso de una válvula VADE para pasta, con un intervalo demasiado grande entre bridas que provoca una tensión en los bulones.

Fig. 4. Un montaje defectuoso de una válvula VADE para pasta, debido a una mala alineación de las tuberías.

The VADE valves for pulp are easily mounted on the piping. They are narrow, light, have an limited flow and are to be fitted between flanges.

**IMPORTANT:** The valve will have a good performance if the following instructions are carefully observed:

- 1 - First of all, the valve will be positioned by making use of the side bolts, fig 1
- 2 - Then, some pins will have to be screwed into the drilled-holes in the valve.

See the correct way to mount a VADE valve in fig.2

Fig. 3. A faulty mounting of a VADE valve for pulp, with a too big interval between flanges which builds up a tension on the bolts.

Fig. 4. A faulty mounting of a VADE valve for pulp due to a bad alignment of the pipes.

INSTRUCCIONES DE MONTAJE  
 MOUNTING INSTRUCTIONS




Figure 1

ITEM	DESCRIPTION	MATERIAL
1	BODY	GG25 (Cast Iron) CF8M (Stainless Steel) ASTM A216 WCB
2	KNIFE	AISI 304 AISI 316
3	GLAND	GG25 (Cast Iron) CF8M (Stainless Steel) ASTM A216 WCB
4	PACKING	Cotton Graphite PTFE Asbestos PTFE
5	SEAL RING	EPDM White EPDM Viton PTFE
6	SOCKET	AISI 316
7	SOCKET	Carbon Steel AISI 304 AISI 316
8	SCRAPER	Carbon Steel AISI 304 AISI 316 Bronze
9	JOINT	EPDM Viton Nitrile
10	LINED	Epoxy Halar Xylan
11	'V' PORT	AISI 304 AISI 316
12	DEFLECTOR CONE	A217 CA15 Ni Hard AISI 316
13	PILLAR	Zinc Plated Steel
14	BOLTS	Zinc Plated Steel

Figure 2