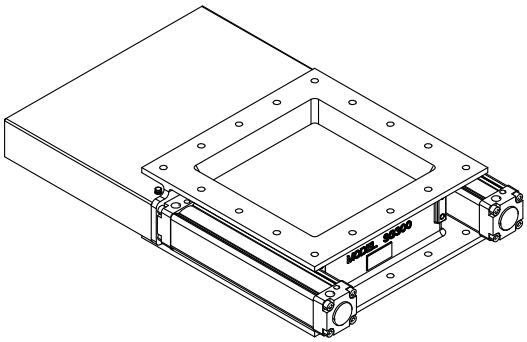
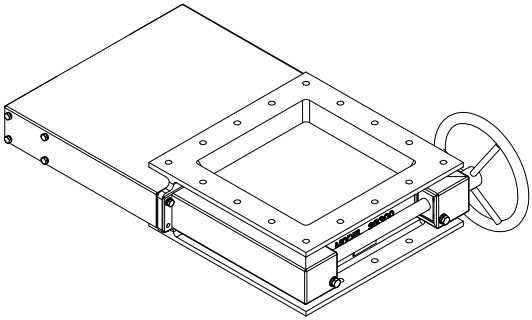
SGSERIES

Slide Gate Series Valve

Installation, Safety, Operation & Maintenance Manual





ISO 9001:2015 Reg. No.748699

Contents

General Information

Purpose of the manual

This manual has been compiled to provide information on the safety, transport, handling, installation, maintenance, repair, disassembly and dismantling of the SG Series Slide Gate valve.

Apart from adhering to established engineering practices, the information given in this manual must be carefully read and applied rigorously.

Failure to adhere to the information provided herein may result in risk to personal health and safety, and economic damages.

This information, provided in the original language (English) of the Manufacturer, may be made available in other languages to meet legal and/or commercial requirements.

The documentation must be stored by a person with the correct authority and must always be made available for consultation. In case of loss or damage, replacement documentation must be requested directly from the Manufacturer. The manual reflects the state of the art at the time of commercialization of the valve.

The Manufacturer reserves the right to modify, supplement and improve the manual, without the present publication being for that reason considered inadequate.

Significant sections of the manual and important specifications are highlighted by symbols whose meanings are given below.

Symbols:

This symbol indicates situations of serious danger which, if ignored, may result in serious risks to the health and safety of personnel.

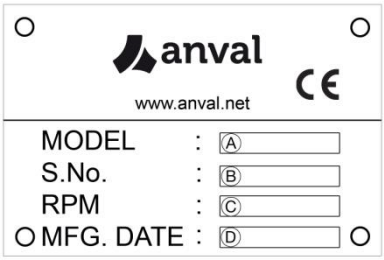
This symbol indicates the need to adopt specific precautions to avoid risks to the health and safety of personnel and possible economic damages.

This symbol indicates important technical information.

The operations highlighted by these symbols must be carried out by qualified professionals specially trained in the safety requirements for zones characterized by potentially explosive atmospheres.

Failure to observe these instructions may result in serious risks to personal and environmental safety

Equipment Identification



A – Model details of the Valve

B – Unique reference code

C – Not Applicable

D – Date, Month &Year of Manufacturing

The name plate and the information thereon must be readable at all times and consequently cleaned from time to time. Should the nameplate wear and/or become damaged so as to affect its readability or that of even one of the items of information thereon, the user must request a new nameplate from the Manufacturer, and replace the old one.

Requesting technical assistance

For any technical service needs, contact the Manufacturer's sales network, quoting the information on the unit's nameplate, the approximate hours of service and the type of defect.

Manufacturer's liability

The Manufacturer declines all liability for cases of:

- Use of the valve in violation of local laws on safety and accident prevention at work.
- Incorrect installation, disregard or incorrect application of the instructions provided in this manual.
- Incorrect or defective power supply
- Modifications or tampering.
- Work done on the unit by unqualified or unsuitable persons.

The safety of the valve also depends on scrupulous observance of the instructions given in this manual, in particular:

- Always operate the valve within its operating limits.
- Diligently observe the routine maintenance schedule.
- Only authorize trained operators to inspect and service the unit.
- Use only original spare parts
- Do not attempt to use the valve contrary to the instructions supplied.
- The instructions given in this manual do not substitute but summarize the provisions of applicable safety legislation.

Safety Information

Safety Standards

Carefully read the instructions given in this manual, especially those regarding safety.

Persons charged with working on the equipment at any time in its service life must be trained specifically for the purpose with special abilities & experience in this area as well as being equipped with the appropriate tools & individual safety equipment. Failure to meet these requirements constitutes a risk to personal health & safety. Use the equipment for the applications envisaged by the manufacturer. Improper use can result in risks to personal health, safety & economic damage

The applications defined by the manufacturer are those industrial applications for which the equipment has been developed.

Keep the equipment at its maximum efficiency by following the routine maintenance schedule. This enables the unit to operate at maximum performance over a long service life in compliance with safely regulations.

When working on the equipment in areas that are difficult to access or hazardous, ensure that adequate safety precautions are taken for the operator & others in compliance with the provisions of law on health & safety at work

All maintenance, inspection & repairs must only be done by an expert maintenance technician. It is therefore, essential to implement operating procedures which address potential hazards & their prevention for the entire equipment. The expert maintenance technician must always work with extreme caution in full compliance with applicable safety standards.

During operation wear only the apparel & safety equipment indicated in the user instructions provided by the manufacturer or laid down by applicable laws on safety at work.

Replace worn components with original spare parts. Use the lubricants (Oil & grease) recommended by the manufacturer.

Do not dump polluting materials into the environment. Dispose of all such materials as stipulated by applicable legislation. After replacing lubricants clean the gear unit's surfaces & the walk-on surfaces around the work area.

Conformity to standards

All SG Series valves are CE marked and designed in compliance with the provisions of all applicable Essential Health & Safety Requirements, "Machinery Directive 2006/42/EC" and, if requested, can be supplied complete with manufacturer's declaration

Operating Limits & Conditions

Ambient Conditions:

Ambient temperature: Min-0°; Max-60°

Usage of the equipment in the temperature outside the ambient range has to be discussed with the manufacturer.

Do not use the equipment, if not explicitly intended for the purpose, in a potentially explosive atmosphere or where the use of explosion-proof equipment is specified.

If the equipment is to be serviced in a poorly lit area, use additional lamps & ensure that the work is done in compliance with appliance with applicable with applicable safety legislation.

Noise - Vibration

The equipment operates well below 80db in normal condition with minimal vibration. Specific noise tests can be conducted at the time of purchase by the manufacturer upon request.

Handling & Transport

Packaging

The standard packaging, when supplied & unless otherwise agreed, is not proofed against rainfall. For environments which are under cover & not humid. Storage in all other conditions requires specific packaging.

The most frequent type of packaging is shown below

Symbol	Description
	This way up
	Do not clamp
	Do not use hooks
	Do not stack
	Keep away from water
	Fragile
	Handle with Care
	Recycle

On the receipt of the equipment, check that the delivery item corresponds to the purchase order & that it is not damaged or faulty in anyway. Refer any nonconformity to the manufacturer at info@anval.net

Dispose of packaging materials as laid down by the provisions of law

Handling Instructions

Handle packages as per the manufacturer's instructions & those marked on the packages themselves. Since the weight & shape of packages may make manual handling unfeasible, special equipment must be used to avoid damage & injury.

The person authorised to handle the product must take all necessary precautions to safeguard their safety & that of all other persons involved.

Moving Packages

Prepare a suitable, delimited area with a level floor or surface for unloading the packages. Prepare the equipment required for handling the package. The lifting & handling equipment used (e.g. crane or lift truck) must have adequate capacity for the weight & size of the load, taking into account its attachment points & centre of gravity. If required, this information is indicated on the package itself. Bind heavy packages with chains, belts & steel ropes after checking whether they are capable of sustaining the weight of the load, which is generally specified.

Moving the equipment

All the following operations must be done with due care & caution without sudden movements

- Identify the attachment points for lifting the equipment.
- Prepare the gear unit for lifting by attaching straps, hooks, shackles etc... to its attachment points, or alternatively, use a pallet for moving the load. If using a crane, first lift it out of its packaging.
- If using a lift truck or pallet truck, remove the packaging & fit the truck's forks at the indicated positions
- First lift the load very slowly to check that it is stable.
- Move the equipment to the unloading area & lower it gently into position, taking care not to cause sudden oscillations while moving it.

Use the eye bolts in such a way that it manages the entire load in conjunction with centre of gravity.

Lifting

When lifting, use accessories such as eyebolts, snap hooks, screw clamps, straps, ropes, hoax etc. which are certified & adequate for the load.

The load must not be allowed to sway or oscillate by more than 15degree in any direction when being lifted. If the oscillation exceeds the limit, stop & repeat the lifting operation as instructed

Storage

- Do not store the unit in excessively humid conditions or where it is exposed to the weather (do not store outdoors)
- Do not place the equipment directly on the ground
- Place the equipment on a stable base & make sure that it is not subjected to accidental displacements
- Store the packaged equipment in accordance with the instructions on the packaging itself
- Safety precautions to be taken when returning the equipment to service after storage.
- The external surfaces must be thoroughly cleaned of all rust proofing products, contaminants & other impurities (use a standard commercial solvent). Do this outside any explosion hazard area.

Installation Pre-requisites & Installation

The entire installation process must be planned based on the general design of the machine. The person authorised to do the work must, if necessary, implement a safety plan to safeguard all persons directly involved & rigorously apply all applicable legislation.

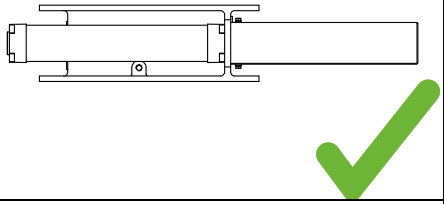
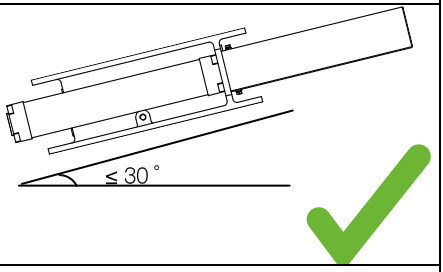
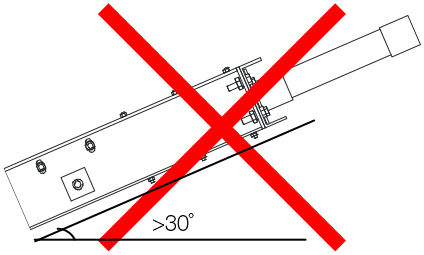
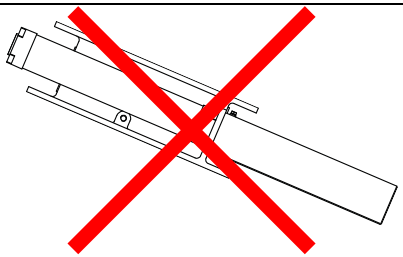
Installation Pre-requisites

- Thoroughly clean all packaging materials & protective product residue from the equipment if any.
- Check that the data on the nameplate corresponds to that which is specified on the order.
- Ensure that the structure to which the equipment is to be mounted is sufficiently robust & rigid to support its weight & operating stresses.
- Check that the machine on which the equipment is to be mounted is switched off & cannot be accidently switched on.
- If the work environment is corrosive for the equipment, take the special precautions required for aggressive environments. In this case, contact us for sales service.

Installation

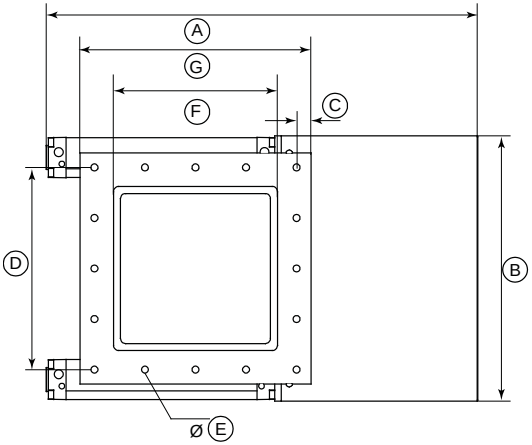
- Place the equipment in the vicinity of the installation area.
- The valve can be placed directly into the flow line by its top and bottom flanges and does not require any additional support.
- Position: The Valve can be installed in any position provided that the flow of material is from the removable chute side.
- Bolting: Ensure all bolting is right & valve is mounted securely to installation.
- Housekeeping: Ensure entry to valve is clean & no foreign objects are in the system that can feed into the valve.

Installation Drawing

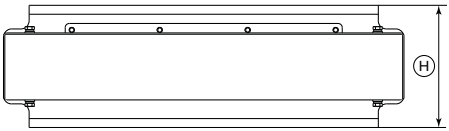
HORIZONTAL Preferred Mounting Positions	TILTED ANTI CLOCKWISE ≤ 30° Acceptable
	
TILTED ANTI CLOCKWISE >30° Not recommended	TILTED CLOCKWISE Not recommended
	

Dimension data:

Pneumatic



TOP VIEW

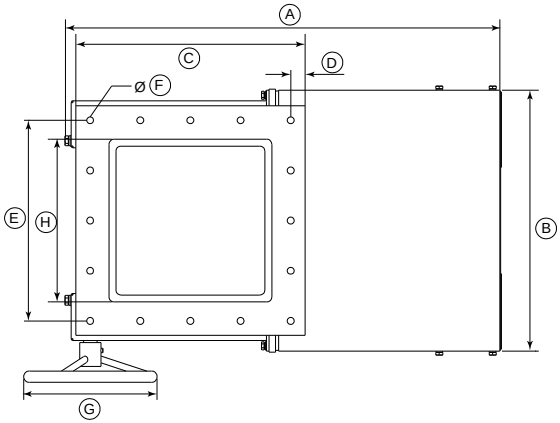


SIDE VIEW

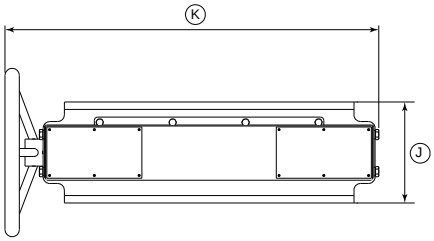
Name	SG 300	SG 350	SG 400	SL 450	SG750
A	803	907	1021	1155	1781
B	493	586	636	938	1420
C	27	28	30	30	50
D	4 spaces @94 = 376	4 spaces @106 = 424	5 spaces @ 94 = 470	5 spaces @114 = 570	6 spaces @150 = 900
E	Ø 13	Ø 13	Ø 13	Ø 15	Ø 22
F	□305	□355	□400	□450	□750
G	□430	□480	□530	□630	□1000
H	150	160	136	190	250

All dimensions in mm

Manual:



TOP VIEW

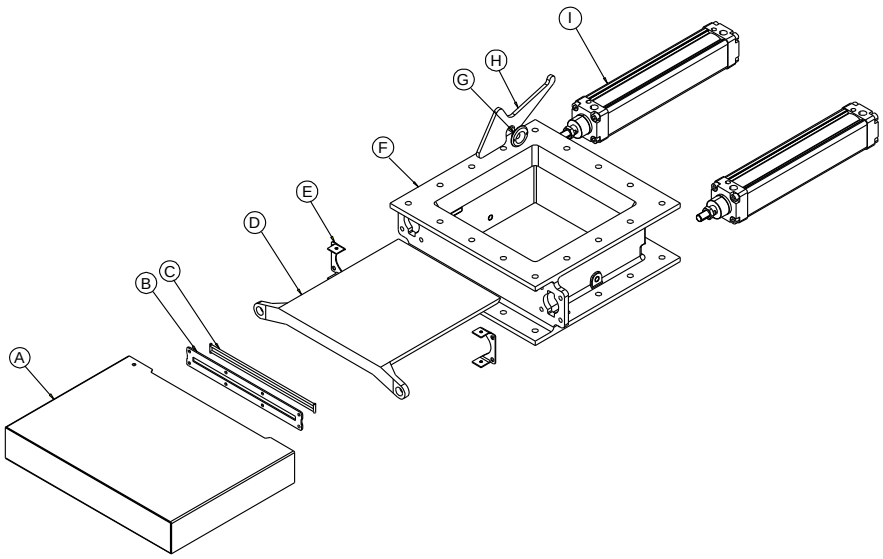


SIDE VIEW

Name	SG 300	SG 350	SG 400	SG 450	SG750
A	818	935	1026	1169	1797
B	489	581	631	715	1120
C	□430	□480	□530	□630	□1000
D	27	28	30	30	50
E	4 spaces @94 = 376	4 spaces @106 = 424	5 spaces @94 = 470	5 spaces @114 = 570	6 spaces @150 = 900
F	Ø13	Ø13	Ø13	Ø15	Ø22
G	Ø250	Ø250	Ø250	Ø250	Ø400
H	□305	□355	□400	□450	□750
J	150	160	160	190	250
K	555	642	692	800	1250

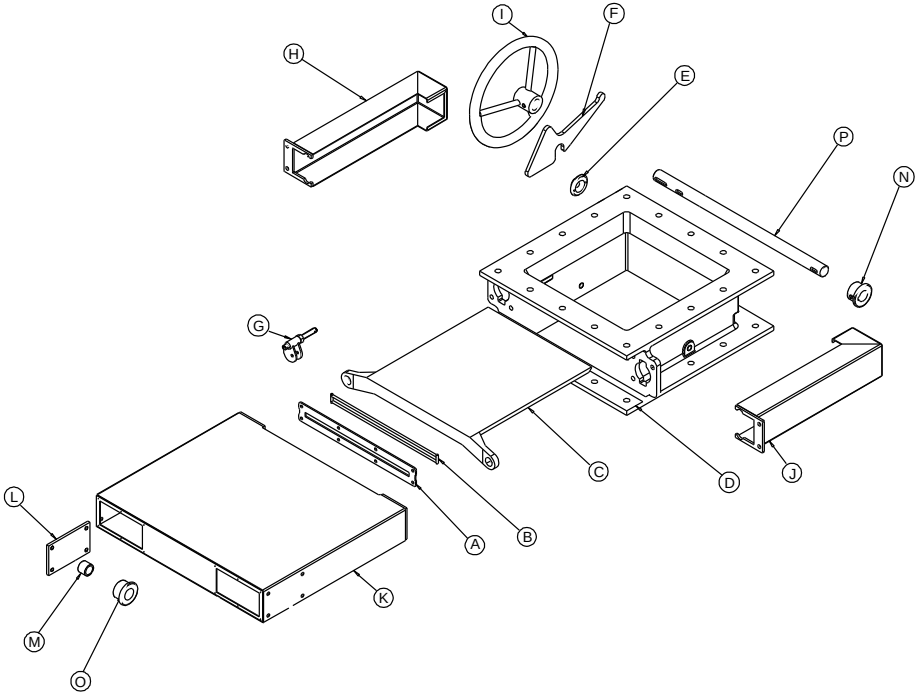
All dimensions in mm

Component Information – Pneumatic



Name	Description	Qty	SG 300	SG350	SG400	SG450	SG750
A	Rear Cover	1	102-3167	102-3296	102-3327	102-4457	102-4492
B	Seal Plate	1	102-3165	102-3292	102-3335	102-4455	102-4489
C	O-Ring-Rubber	1	102-3164	102-3293	102-3334	103-0448	102-4488
D	Blade	1	102-3163	102-3291	102-3333	102-4245	102-4446
E	Rear cover - Mounting Plate	2	102-3110	102-3319	102-3319	102-4456	102-4491
F	Body	1	102-3162	102-3291	102-3332	102-4244	102-4444
G	Toggle Pin	2	102-3104	102-3294	102-3294	102-4460	102-4495
H	Toggle Clamp	2	102-3166	102-3295	102-3336	102-4461	102-4496
I	Cylinder	2	102-3179	102-3302	102-3348	102-4453	102-4486

Component Information – Manual



Name	Description	Qty	SG 300	SG 350	SG 400	SG 450	SG 750
A	Seal plate	1	102-3165	102-3292	102-3335	102-4455	102-4489
B	O-ring	1	102-3164	102-3293	102-3334	102-0448	102-4488
C	Blade	1	102-3163	102-3290	102-3333	102-4245	102-4446
D	Body	1	102-3162	102-3291	102-3332	102-4244	102-4444
E	Toggle pin	1	102-3104	102-3294	102-3294	102-4460	102-4495
F	Toggle clamp	1	102-3166	102-3295	102-3336	102-4461	102-4496
G	Assembly blade clamp	1	102-3136	102-3320	102-3320	102-4477	102-4500
H	Assembly drive side cover	1	102-3184	102-3313	102-3344	102-4479	102-4511
I	Hand wheel	1	102-3120	102-3120	102-3120	102-3120	102-4530
J	Assembly non drive side cover	1	102-3177	102-3317	102-3345	102-4483	102-4515
K	Assembly rear cover	1	102-3170	102-3304	102-3338	102-4465	102-4502
L	Assembly sprocket bracket	2	102-3132	102-3310	102-3310	102-4471	102-4510
M	Bearing	1	102-3099	102-3099	102-3099	102-3099	102-4529
N	Drive sprocket	2	102-3115	102-3115	102-3115	102-4463	102-4523
O	Driven sprocket	2	102-3116	102-3116	102-3116	102-4475	102-4534
P	Shaft	1	102-3175	102-3303	102-3337	102-4462	102-4497

Testing & Using the Valve

The equipment has been factory tested by the manufacturer. Please contact us for further information on the same.

Before starting the equipment, check that:

- The machine incorporating the equipment complies with the provisions of the "Machinery Directive" 98/37/EC & any other applicable safety legislation.
- The equipment's mounting position in the installation corresponds to that prescribed & indicated on the nameplate

Before putting the equipment into service, the user must ensure that the plant in which it is installed complies with all applicable directives, especially those regarding health & safety at work

Cover the opening with a safety closure while testing the valve as per safety standard. Also ensure that the valve is never left unattended during the course of testing

Maintenance

Anval slide gate valve has been designed to operate maintenance free and most parts should there for last for its entire lifetime.

Maintenance & replacement work must be done by expert maintenance technicians trained in the observance of applicable laws on health & safety at work & the special ambient problems attendant on the installation.

Before doing any work on the unit, the operator must first switch off the power to the equipment & ensure that it is out of service, as well as taking all necessary precautions against it being accidentally switch on again or its parts moving without warning.

Furthermore all additional environmental safety precautions must be taken (e.g. elimination of residual gas or dust, etc)

- Before doing any maintenance work, activate all safety equipment and, if necessary, inform persons working in the vicinity. In particular, mark off the area around the unit & prevent access to any equipment which, if activated, might be the cause of unexpected health & safety hazards.
- Replace worn components with original spare parts only.
- Check slide gate condition by undoing both inspection hatches open slide and inspect top for flatness and guides on underside for wear.

The manufacturer declines all liability for injury & damage to components due the use of non-original spare-parts & non-routine work which modifies the safety requirements without prior authorisation of the manufacturer.

Do not dump polluting liquids, worn parts & maintenance waste into the environment. Dispose of all such materials as stipulated by applicable legislation.

Routine Maintenance

- Check slide gate condition once in every quarter
- Check feed chute seal to slide gate once in every quarter

Handle them with care using suitable individual safety equipment. Do not dump into the environment & dispose of in compliance with applicable legislation.

If a leak is found, identify the cause of the fault, repair it & refill with lubricant before operating the equipment

Chute/Blade Adjustment

1. Close slide-gate
2. Turn slide-gate upside down
3. Loosen seal lever assembly countersunk cap screws
4. Ensure slide is touching chute all the way around
5. Nip cap screws up and check gap with feeler gauges 0.1mm
6. If gauge slides under tap seal lever assembly down
7. Recheck the feeler gauge
8. Tighten all cap screws and check slide-gate will open and close

Note! Should leakage occur, the valve blade on the intake side can be machined and re-adjusted as per chute adjustment directions.

Replacing & Scrapping

Replacing Parts

- Do not hesitate to replace parts and/or components if they are not able to guarantee safe and reliable operation.
- Never improvise repairs
- The use of non-original spare parts not only voids the warranty but can compromise gear unit operation.

Scrapping the equipment

- This must only be done by operators trained in the observance of applicable laws on health & safety at work.
- Dispose of all such materials as stipulated by applicable environmental protection legislation.
- Do not dump non-biodegradable products, lubricants & non-ferrous materials (rubber, PVC, resins, etc.) into the environment.

Do not attempt to re-use parts or components which appear to be in good condition after they have been checked and/or replaced by qualified personnel and declared unsuitable for use.

Troubleshooting

Below table provides information on common problems, causes & solutions of the equipment

Problem	Possible Causes	Solution
Slide-gate blade will not close	Large particle jammed between blade and valve body	Objects needs to be removed. Reverse the blade for few seconds so that object may re-arrange itself & fall through
	Hand wheel shaft seized	Remove the hand wheel, apply oil, clean the shaft and rotate the wheel.
	Product build up between blade and chute	Open the blade on intervals on product build up.
Slide-gate blade will not open	Hand wheel shaft seized	Remove the hand wheel, apply oil, clean the shaft and rotate the wheel.
	Product build up between blade and chute	Open the blade on intervals on product build up.
Slide-gate shut & product passing	Excessive wear on chute sealing face	Adjust the side bolts on the chute and provide a 1mm clearance between the blade and chute.
	Incorrect blade adjustment	Check adjustment on all the sides of the chute, open & close of the blade and adjust accordingly.

Notes

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Disclaimer:

All drawings are conceptual only and are subject to change without notice at the discretion; Anval Valves reserves the right to make additions, deletions and modifications to the drawings. Individual product dimensions indicated are approximate, may vary due to construction, and may vary from individual requirements indicated here within and may vary with actual construction.

Our Locations

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CLIENT

CLIENT ADDRESS

PROJECT

PO No & MODEL No