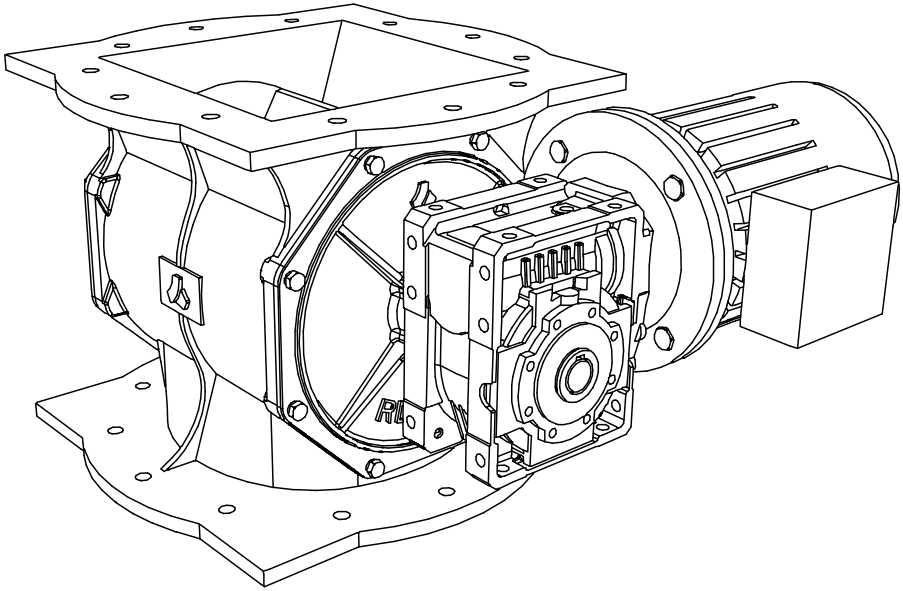
RLSERIES

RL Series Rotary Valve

Installation, Safety, Operations & Maintenance Manual



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ISO 9001:2015 Reg. No.748699

This manual contains data with respect to our default products only. For any deviation from the default models, kindly refer the deviation sheet in the last page of the manual.

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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 RL Series 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. This manual reflects the engineering standards applied to the valve at the time of commercialization.

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 on the following page.

Symbols

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.

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.

Safety Information

Safety Precautions

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.

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 carried out 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.

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

Conformity to standards

All RL 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.

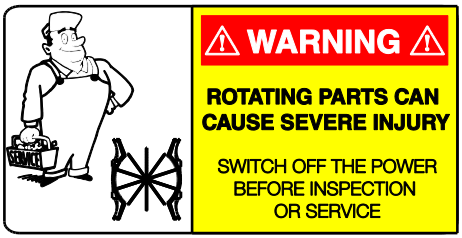
Do not use the equipment, if not explicitly intended for the purpose, in a potentially explosive atmosphere or where the use of explosion-proof equipment is specified.

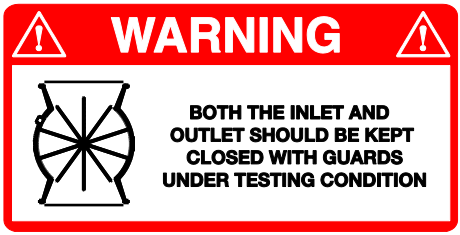
If the equipment is to be serviced in a poorly lit area, use additional lamps & ensure that the work is done in compliance with appliance with applicable safety legislation.

Noise - Vibration

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

Safety Instructions





This symbol, indicates the direction in which the rotor must rotate. If the unit is rotating in the wrong direction, possible damage to the unit may result.

Safety Guard

The inlet and outlet of the valves must be guarded in situate to prevent anyone inserting fingers, hands etc., into the rotating valve. This guarding cannot be incorporated into the valve assembly and is not supplied along with the valve. It must be, therefore, be supplied by the installation contractor and fitted as a separate guarding during plant assembly.

Do not install Rotary Airlock valves & feeders in an application which leaves the inlet or outlet flange opening exposed.

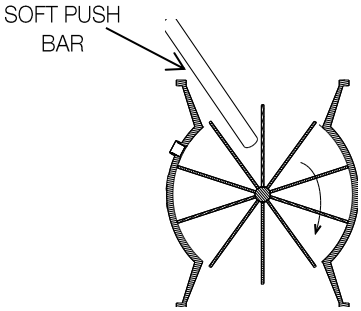
Inlet and Outlet flange guards are MANDATORY if the inlet or outlet flange opening is exposed while the rotor is running.

Do not insert a finger, stick or any other object. Permanent damage will be caused to the valve and any other object inderted will be amputated.

RL SERIES

Note: These protective flange covers are available upon request and provided as an accessory to the valve.

Once the protective flange/chain guard cover is removed from valve, do not place hands or feet in the valve or attempt to turn rotor assembly by hand. To test rotation of the rotor, use a soft push bar as shown on the following page.



Special Conditions for Safe Use

The following points must be considered while using the valve in potentially explosive atmosphere.

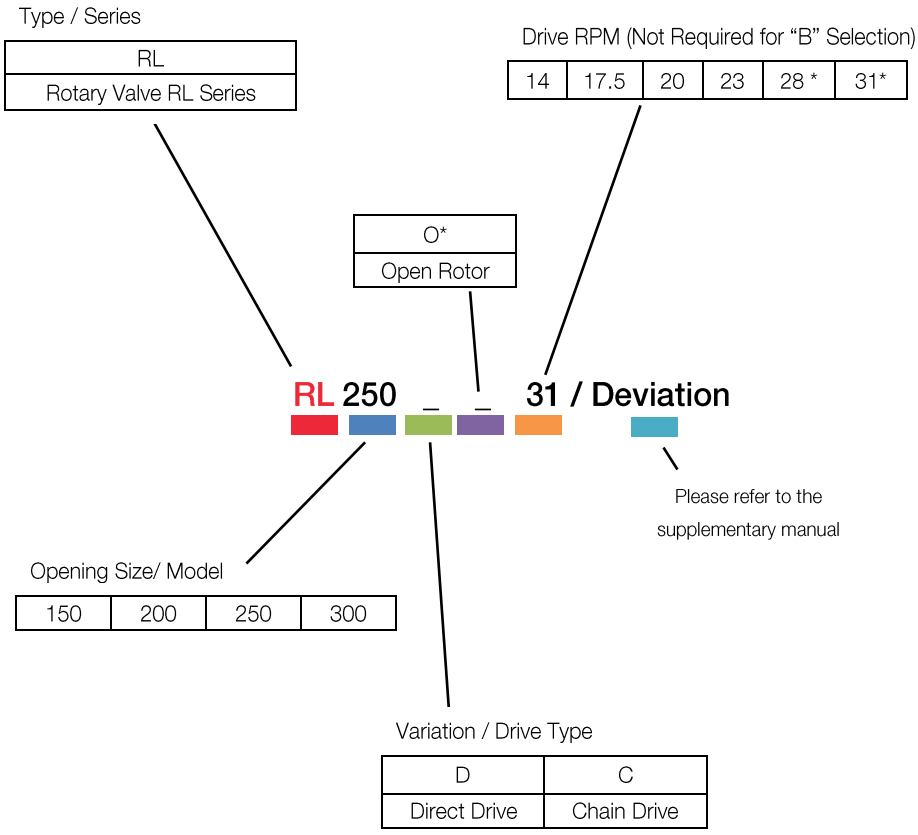
- All relevant metallic parts of the equipment shall be bonded to a fixed and secure platform.
- The equipment shall be installed such that the final installation provides protection from parts of the body coming into contact with the rotating parts of the valve.
- The equipment shall be installed such that the final installation prevents the entry of falling objects into the equipment.
- The equipment shall be cleaned at regular intervals to prevent a build-up of dust on any part of the apparatus.
- Equipment is NOT to be used as an explosion suppression device.
- To prevent hazards arising from propagating brush discharges on the painted parts the equipment shall not be subjected to any charging mechanisms stronger than the manual rubbing of its surfaces

Maximum RPM of the valve should never exceed the criteria given below.

MODEL	MAX. RPM
RL150	31
RL200	31
RL250	31
RL300	28

Model Identification

Below table represents codification format for the choosing the model code:

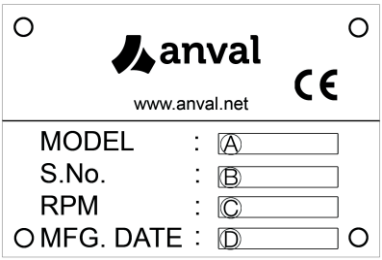


*Default Selection

RL150 / 200 /250 – 31 RPM

RL 300 – 28 RPM

Equipment Identification



A – Model details of the Valve
B – Unique reference code
C – RPM of the Rotor
D – Month &Year of Manufacturing

The nameplate 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.

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

Packing Dimension Details

MODEL	VALVE TYPE	PACKING MATERIAL	L X B X H	GROSS WEIGHT
RL150	Direct Drive	Carton Box / Wooden Box	544 x 529 x 310	34
RL150	Chain Drive	Carton Box / Wooden Box	482 x 428 x 310	33
RL200	Direct Drive	Carton Box / Wooden Box	592 x 559 x 370	55
RL200	Chain Drive	Carton Box / Wooden Box	574 x 486 x 370	53
RL250	Direct Drive	Carton Box / Wooden Box	698 x 660 x 430	75
RL250	Chain Drive	Carton Box / Wooden Box	664 x 545 x 430	73
RL300	Direct Drive	Carton Box / Wooden Box	749 x 716 x 500	105
RL300	Chain Drive	Carton Box / Wooden Box	728 x 598 x 500	102

All dimensions in mm, weight in Kgs.

Note: Approximate dimension only. Varies with motor size and gear box variation. L x B x H denotes the Length, Breadth and Height of the package box.

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
- If the equipment is stored for more than 6 months, fill the gear unit with lubricating oil & cover all machined external surfaces with a quality rust proofing product)
- 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.
- The solvent must not touch the seal rings as this can damage them & render them ineffective.
- If the oil or protective material used during storage is not compatible with the synthetic oil used during the machine's operation, the interior of the unit must be thoroughly cleaned before filling with the operating oil.

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.

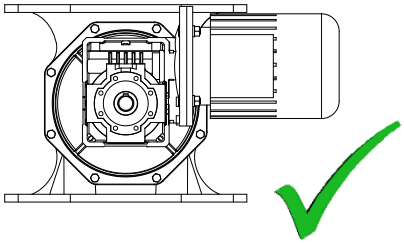
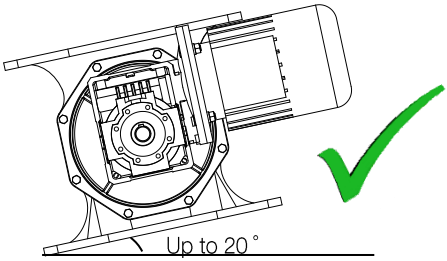
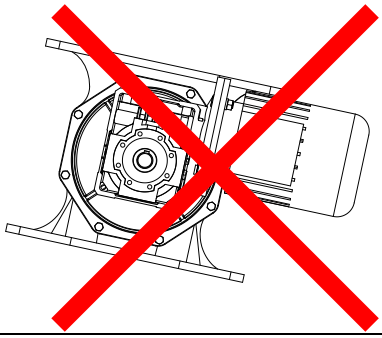
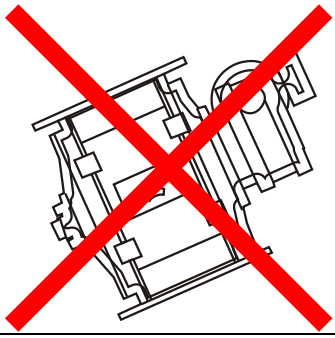
Installation Pre-requisites

- 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.
- Mount the equipment & secure it to the structure at the points provided. The equipment should be secured to the structure through all the mounting points on the mount specified (flange)
- Preferred position: It is best to install in a vertical position. An angle of up to 20degree can be used, providing shaft is in horizontal position & angle is in anti-clockwise direction (when viewed from drive end)
- 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.
- Rotation Direction: Rotor must rotate in a clockwise direction when viewed from the drive end.

Installation Drawing

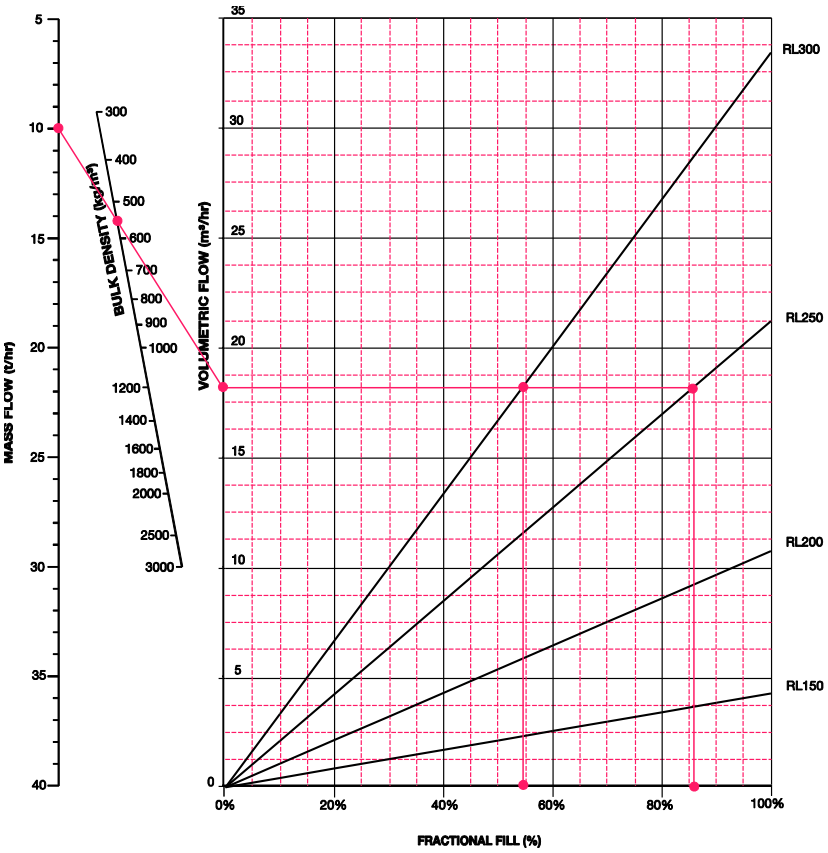
HORIZONTAL Preferred Mounting Positions	TILTED ANTI CLOCKWISE FROM DRIVE END Acceptable
	
TILTED CLOCKWISE FROM DRIVE END Not recommended	SIDE TILTED WITH SHAFT ANGLED Not recommended
	

Operation and Commissioning

- Speed has been set at the factory end based on the customer's requirement
- In case of Chain drive (C) small variations in speed can be achieved by changing the sprocket.
- Valve's performance depends on the performance of the system where it is installed, thus any major deviation from the defined specification will call for complete investigation.
- Within the warranty period any dismantling of valves has to be carried out under the vigilance or guidance of the company's officials.

Technical Information

Capacity Data:

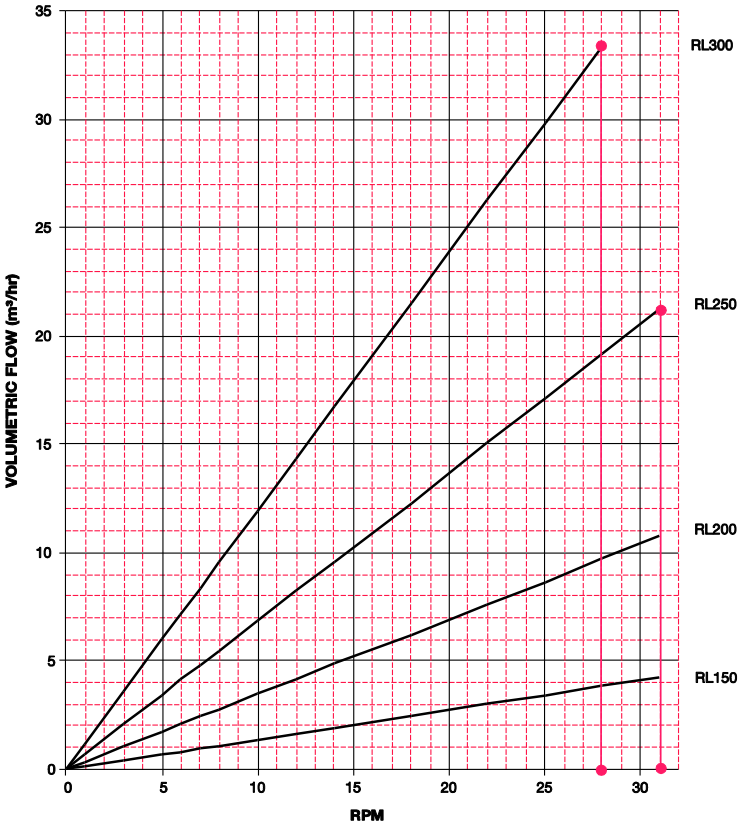


Example: A material with a density of 550 kg/m3 and required capacity of 10 t/hr can be achieved by RL250 at 86% filling capacity with 31 RPM and also by RL300 at 54% filling capacity with 28RPM

Note: This chart is prepared for guidance purpose only, considering 31 RPM for RL150/200/250 and 28 RPM for RL300.

Model Selection Data

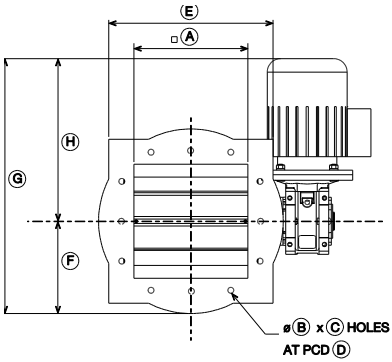
Speed vs. Throughput



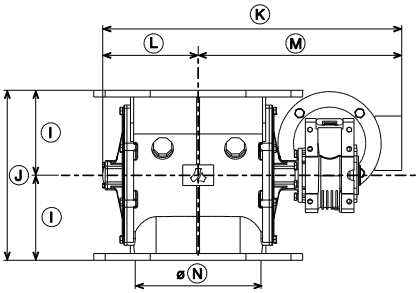
- 31 RPM default for RL 150 / 200 / 250
- 28 RPM default for RL 300

Note: This chart is prepared for the guidance purpose only, considering 100% filling capacity.

Dimension data – Direct Drive (D)



TOP VIEW



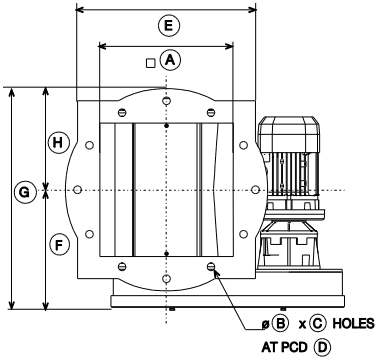
SIDE VIEW

NAME	RL 150	RL 200	RL 250	RL 300
A	150	200	250	300
B	13	13	13	18
C	8	8	12	12
D	240	295	350	400
E	□250	□305	□360	□400
F	140	170	202.5	228
G#	429	459	560	616
H#	289	289	357	388
I	105	135	165	200
J	210	270	330	400
K#	444	492	598	649
L	140	170	203	228
M#	304	322	395	408
N	147	198	249	299
Net Weight	29	47	65	93
Gross weight	34	55	75	105

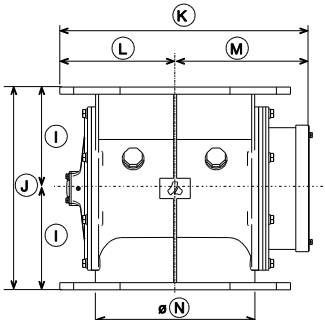
All dimensions in mm

varies with motor size and gear box variation.

Dimension Data – Chain Drive (C)



TOP VIEW



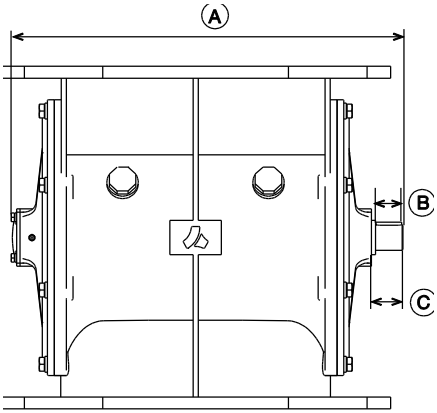
SIDE VIEW

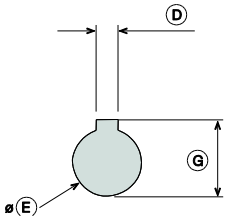
NAME	RL 150	RL 200	RL 250	RL 300
A	150	200	250	300
B	13	13	13	18
C	8	8	12	12
D	240	295	350	400
E	□250	□305	□360	□400
F	188	170	242.5	270
G	328	386	445	498
H	140	216	202.5	228
I	105	135	165	200
J	210	270	330	400
K#	382	474	564	628
L	140	170	202.5	228
M#	242	304	361.5	400
N	147	198	249	299
Net Weight	28	46	63	90
Gross weight	33	53	73	102

All dimensions in mm

varies with motor size and gear box variation.

Dimension Data – Bare Shaft (B)

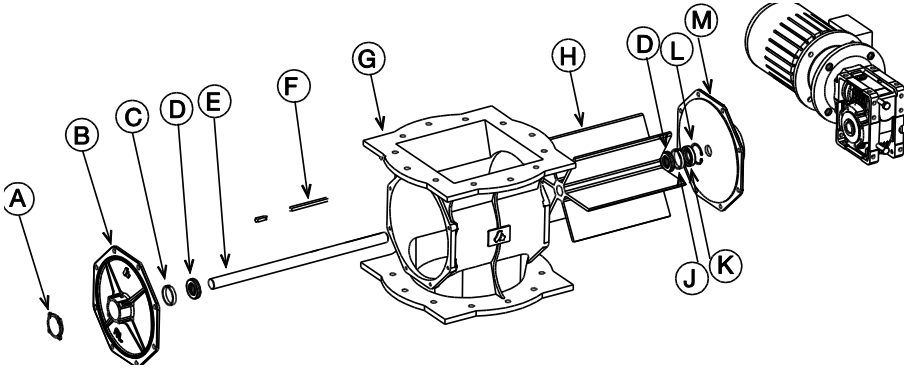




NAME	RL 150	RL 200	RL 250	RL 300
A	294	351	416	469
B	26.5	27	34	32
C	31	31	37	37
D	8	8	8	8
E	25	25	25	30
G	28	28	28.3	33

All dimensions in mm

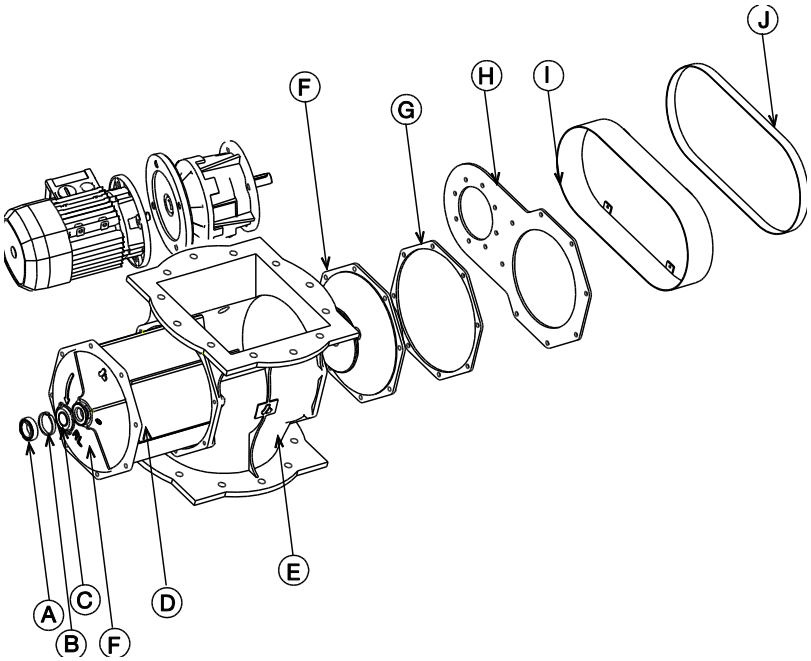
Component Information – Direct Drive (D)



NAME	DESCRIPTION	RL 150	RL 200	RL 250	RL 300
A	Bearing End Cap	102-6267	102-6267	102-6267	102-6280
B	Bearing Side Plate	102-6265	102-6270	102-6274	102-6278
C	Bearing	102-6281	102-6281	102-6281	102-6282
D	Labyrinth Seal	100-6826	100-6826	100-6826	100-6827
E	Shaft	102-6455	102-6456	102-6457	102-6458
F	Key	101-7039	101-7039	100-6864	102-6480
G	Body	102-6264	102-6269	102-6273	102-6277
H	Open rotor	102-6291	102-6292	102-6293	102-6294
J	Spacer	102-6289	102-6289	102-6289	102-6290
K	Oil Seal	102-6284	102-6284	102-6284	102-6285
L	Circlip	100-8214	100-8214	100-8214	100-8778
M	Drive Side Plate	102-6266	102-6271	102-6275	102-6279

Note: Above details represents the part no. of each component and may subject to change with variation.

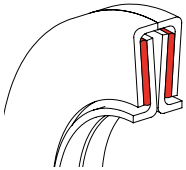
Component Information – Chain Drive (C)



NAME	DESCRIPTION	RL 150	RL 200	RL 250	RL 300
A	Bearing	102-6281	102-6281	102-6281	102-6282
B	Spacer	102-6289	102-6289	102-6289	102-6290
C	Bearing End Cap	102-6267	102-6267	102-6267	102-6280
D	Rotor	102-6291	102-6292	102-6293	102-6294
E	Body	102-6264	102-6269	102-6273	102-6277
F	Bearing Side Plate	102-6265	102-6270	102-6274	102-6278
G	Bracket Spacer	102-9317	102-9325	102-9332	102-9339
H	Bracket	102-9318	102-9326	102-9333	102-9340
I	Chain Guard	102-9323	102-9331	102-9338	102-9345
J	Chain Guard Cover	102-9322	102-9330	102-9337	102-9344

Note: Above details represents the part no. of each component and may subject to change with variation.

Anval Standard



Labyrinth Seal

The Labyrinth seal, which is a mechanical seal that fits around the axle or shaft to prevent the leakage of any particles.

Generally, a Labyrinth seal is composed of many threads or grooves that are tightly fit inside the casing, thus making difficult for the dust to pass through a long and difficult path.

Labyrinth seals on rotating shafts provide a non-contact sealing action by controlling the passage of particles through a variety of chambers by centrifugal motion, as well as by the formation of controlled material vortices.

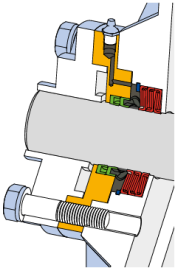
'Double labyrinth Seals' fitted with flock pads, greased on each side of the valve, are standard with all rotary valves.

- Longer life span
- Sealing not on the shaft
- No adjustments

Purge Sealing

Grease Purge (G) Sealing

For extreme duty, RL valves are fitted with a grease purge unit over the labyrinth seal. By creating a grease filled cavity between the seals, it prevents the escape of any dust particles or gases.

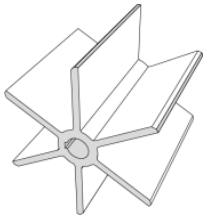


Grease Purge Sealing

Open Rotor

Open Rotors refer to the open pocket at each end of the rotor.

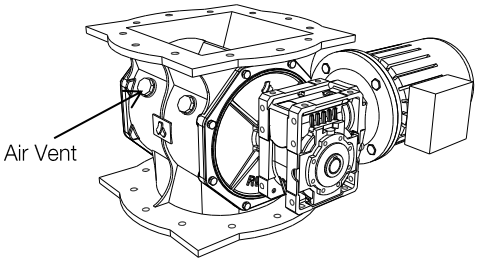
The RL Series rotors, by default come with 6 vanes and a close radial clearance tolerance of 0.22 mm (max).



Typical Open Rotor

Air Vent / Cleaning

Air vent is available for rotary valve to release the gas leakage when feeding a positive pressure system.



Testing & Using the Valve

The equipment has been factory tested by the manufacturer. Please contact us for further information regarding ANVAL's testing processes.

Before starting the equipment, check that

- The machine incorporating the equipment complies with the provisions of the "Machinery Directive" 2006/42/EC & any other applicable safety legislation.
- The equipment's mounting position in the installation corresponds to that prescribed & indicated in installation drawing.
- The electrical power supply & control systems are suitable & operational as stipulated in standard EN 60204-1 & grounded as per standard EN 50014.
- The motor power supply corresponds to that prescribed & is within +/-5% of the rated valve.
- The motor is examined for the direction of rotation & if it runs the other way, it is to be recalibrated by a trained person
- The oil level in the gear unit is as prescribed & that there are no leaks from the caps or gaskets

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 in the work place.

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

Maintenance & replacement work must be carried out 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 into account (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.
- Use the lubricants recommended by the manufacturer
- When working on the gear unit always replace gaskets & seals with new original ones
- If a gear unit bearing requires replacement, it is a good practice to also replace the other bearing supporting the same shaft.
- We recommend replacing the lubricating oil after all maintenance work.

The above instructions are aimed at ensuring efficient & safe operation of the gear unit.

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

Before working on the valve, Isolate and Disconnect the electrical supply.

The following must be checked and adjusted as necessary;

Shaft Seals

- Check and replace the shaft seals annually.

Drive Sprockets and Chain

- Check and adjust the chain drive tension quarterly.
- Before replacing the chain, examine the sprocket teeth for signs of wear and renew if necessary.
- When replacing the sprockets and drive chain ensure the sprockets are correctly aligned and the chain tension is correct.

Bearings

Standard bearing used across the RL Series are greased packed, sealed for life and maintenance free. Even though they should be checked every 3 months and grease needs to be purged weekly.

When replacing the bearings, use manufacturer recommended replacement parts only. Other bearings may fit, but will not function properly. If the bearings are removed from the airlock for any reason, they must be replaced, not reinstalled.

Geared Motors

Maintain the geared motors as described in manufacturer's instructions.

Grease Purge

Greasing needs be done every month.

Gas Purge

Inert gas to be used for cleaning the product blocked in the labyrinth seals and need to be purged every month.

It is recommended that the complete rotary valve be dismantled for cleaning, inspection and overhaul as necessary at regular intervals. The intervals between such routine overhauls will vary with the product being handled and the operating time. To a larger degree the rate of wear for a particular application would be assessed by practical experience.

Lubrication

Gearbox Lubrication

Maintain or change oil as per the Gear box instruction manual.

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

Most Commonly used Gearbox Oil

Shell Tivela S320 or Shell (Tivela Oil SC320), Kluber (Klubersynth GH 6 320), Aral (Degol GS 320), Total (Carter SY 320), Caltex EP320, IP (Telium Oil VSF 320 oAgip) & Mobil (Glygoyle HE 320 or equivalent long-life synthetic lubricant.

- Maintain required level and change if oil is contaminated.

Bearing Lubrication

- Normal Temperature : Multipurpose grease (Monthly)

Grease Purge Lubrication (G)

- Normal Temperature : Multipurpose grease (Monthly)

Checking Efficiency

- Remove dust deposits on the surface of the equipment & its parts
- Check that noise at constant load does not vary. Excessive vibration or noise can indicate wear of the gear train or failure of a bearing
- Check the power absorption, voltage against the nominal values & any lubricant leaks
- Check all bolted couplings for wear, deformation or corrosion & tighten them down fully without over tightening
- Check the clearance for wear against the original with a feeler gauge

Maintenance Schedule

Maintenance routine statements are prescribed in the table format for easy care.

SL. NO.	DESCRIPTION	WEEKLY	MONTHLY	QUARTERLY	HALF YEARLY	ANNUALLY
1	Shaft Seals					R
2	Greasing on Bearings	L				
3	Grease Packing on Bearings			R		
4	Grease Purging		L			
6	Chain Drive Tension			C ,A & L		
7	Drive & Driven Sprockets			C & L		
8	Dust deposits on Gear Box & Motor		C			
9	Tightening of Fasteners		I			
10	Clean Material in Rotor Through Vent Plug *				C	
11	Gearbox Oil Change	As per Manufacturer's Instruction.				

* Based on application & material used.

ABBREVIATION	DESCRIPTION
I	Inspect & Correct or Replace if necessary
R	Replace or Change
L	Lubricate
C	Clean
A	Adjust

Surface Cleaning

Clean all dust & process waste off the equipment. Do not use solvents or other products which are incompatible with the construction material and do not direct high-pressure jets of water at the gear unit.

If the equipment is to be painted, tape the nameplate & seal rings to prevent contact with solvent.

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.

Spare Parts Reordering

For RL Series, following spare parts can be reordered

- SHAFT SEAL KIT – Needs 2 kit for a valve
    - Shaft seal kit includes, Labyrinth Seal, Spacer ring, Oil Seal, and Internal Circlip
- SHAFT KIT – Needs 1 kit for a valve
    - Shaft Kit, includes shaft with keys.
- BEARING KIT - For Direct drive needs 1 kit; For Chain drive needs 2 kit
    - Bearing kit includes, Bearings.
- OTHERS – Please check the part list details available in Page. Number. 28 & 29

Kindly send your requirements in email to info@anval.net for support.

NOTE: On ordering the items, please mention the valve serial number available in the product name plate.

Scrapping the Equipment

- This must only be done by operators trained in the observance of applicable laws on health & safety in the workplace.
- 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	Cause	Solution
Motor Stalls	Foreign or large object jammed between rotor & body	Objects needs to be removed. Reverse the motor for few seconds so that object may re-arrange itself & fall through
	Product size too large , lumpy or stringy with valve running at 100% full	Increase the valve speed so that rotor pockets are only partially full allowing larger objects to pass
	Electric overload set too low	Reset
Air Leaks Past Rotor	Excessive pressure downstream due to blockage or design fault	Check & make necessary changes
	Rotor damaged	Check & replace if necessary
Excessive Equipment Noise	Rotor moved to side or foreign body caught in rotor	Re-adjust rotor or remove foreign body
Seal Leakage	Seal damaged	Replace seal
	Pressure too high for standard seal	Fit grease purge seal
	Circlip not in place, allowing seal to move	Check Circlip and refit if necessary
Minimal or No Product Discharge	Rotor clogged up due to sticky material	Check through inspection opening & clean if necessary
	Failure of part of the drive train	check out & replace faulty component
Abnormal Noise at Gear unit Mounting	Mounting bolts loose	Tighten down to specified torque
	Mounting bolts worn	Replace bolts
Gear unit Oil Leaks	Oil level too high	Check oil level and make necessary changes
	Casing/Coupling seals inadequate	Contact authorised workshop
	Gaskets worn	Contact authorised workshop
Gear unit doesn't run or runs with difficulty	Oil Viscosity too high	Replace oil
	Oil level too high	Check oil level for required changes
	Service load too high	Redesign drive for actual service load
Output shaft doesn't turn with motor running	Gears damaged	Contact authorised workshop

Notes

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Notes

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.

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W: www.anval.net

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PROJECT

PO No & MODEL No

Try our Innovative Product Configurator at https://configurator.anval.net/

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