

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

Declutchable Gear Box for Emergency Control

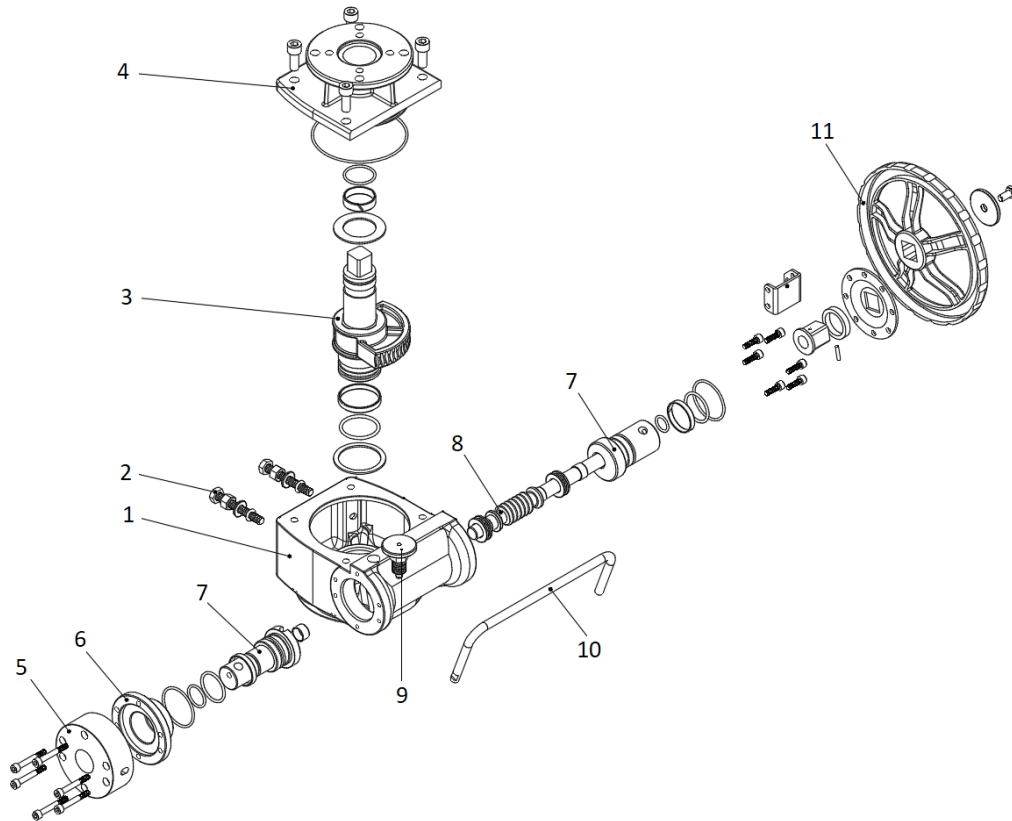


GENEBRE Ref.: 5971

Installation, operation and maintenance instructions

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1. Assembly drawing



1.1 Parts list

Nº	Name	Material	Surface Treatment
1	Body	WCB	Epoxy coating
2	Adjust bolts	AISI 304	-----
3	Gear	Carbon Steel	-----
4	Top cap	WCB	Epoxy coating
5	Cap	Carbon Steel	Painted
6	Cap	Carbon Steel	Painted
7	Eccentric shaft	Carbon Steel	-----
8	Worm shaft	Carbon Steel	-----
9	Lock device	Steel	-----
10	Handle	Stainless steel	-----
11	Handwheel	Ductil Iron	Painted

2. Storage

During storage it is recommended to keep the Gear Operator in the same position as delivered, with the included protective wrapping to avoid damages or dirt accumulation. The wrap must not be removed until the operator is to be installed. As far as possible, store in a dry and clean environment. If you expect to have the product stored for a long period of time, apply anti rust oil over machined areas. Repeat every 6 months if necessary.

3. Installation instructions

3.1 Preparation

Remove any wrapping material from the product.
The Gear Operator is delivered in the closed position.

3.2 Assembling to the valve

1- Check if the bolt circle on top flange and stem dimensions of the valve coincide with the bolt circle and square hole of the gear operator, respectively (connection according to ISO 5211 standard).

2- Make sure that both valve and gear operator are in fully closed position.

3- Mount the gear box with its shaft perpendicular to the valve (or pipeline) by means of the attached four screws and washers. Apply "cross method" for tightening.

3.3 Assembling to the actuator

1- Check if the holes and pinion dimensions of the actuator coincide with the holes and square of the gear operator, respectively (connection according to ISO 5211 standard).

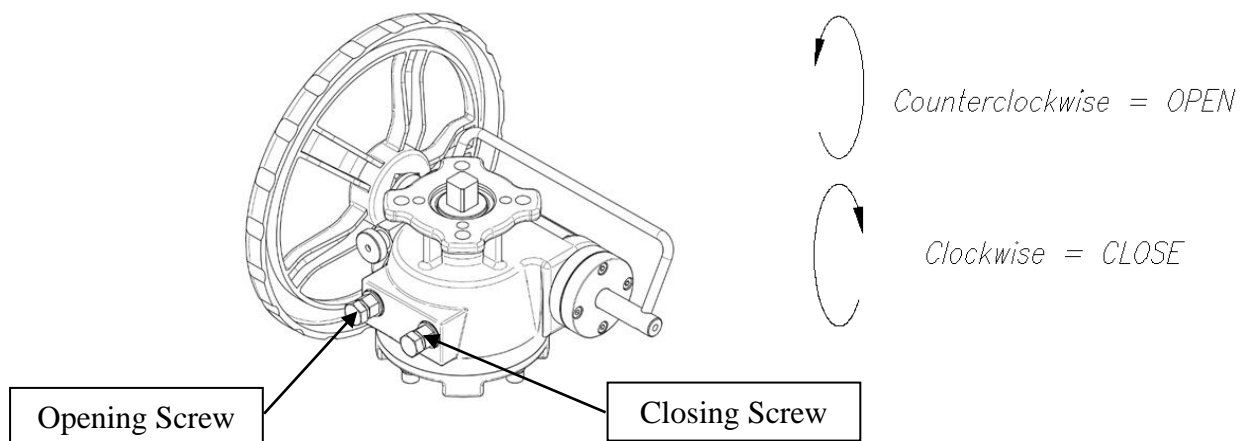
2- Make sure that both actuator and gear operator are in fully closed position.

3- Mount the actuator with its shaft parallel to the pipeline) by means of the four screws and washers. Apply "cross method" for tightening.

3.4 Adjustment of the regulation screws

The unit is already adjusted in the factory at 0° and 90°, however it could be necessary a later adjustment in Open and/or Close position of the valve. The range of adjustment is +/- 10° for both positions.

The procedure simply consists on checking that the valve is fully open in Open position and fully closed in Close position. Adjust the Regulating Screws (part.2) as much as necessary (between the range of adjustment).



4. Operation instructions

4.1 Manual operation

Manual gearbox designed to be able to manually operate the valve with pneumatic rotary actuator in case of failure of air or energy.

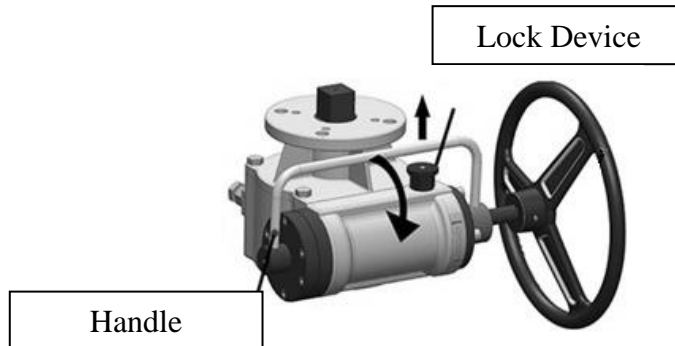
The gear boxes are manually operated by handwheel. Turn clockwise for closing or turn counterclockwise for opening the valve.

Do not attempt to force the handwheel beyond the stop limits.

4.2 From Manual to Automatic

1-Pull upwards the lock device (part.9) and turn the handle (part.10) downwards.

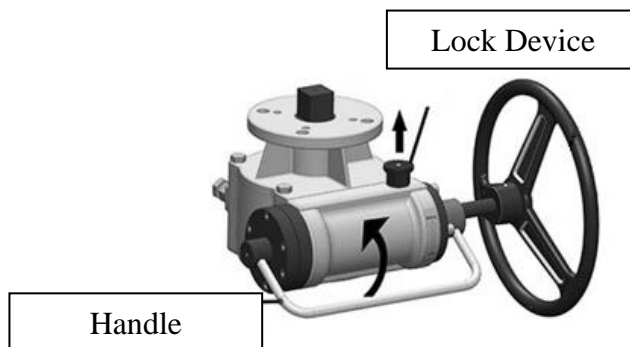
2-Let the lock device (part.9) down and move the handle (part.10) to position it.



4.3 From Automatic to Manual

1-Pull upwards the lock device (part.9) and turn the handle (part.10) upwards.

2-Let the lock device (part.9) down and move the handle (part.10) to position it.



Important:

When Pin is pull upwards, if handle is unable to move, check by turning the hand wheel slightly. If unable to pull Pin upward, unscrew the pin by with spanner to loosen the Pin slightly

For the valves operated with gear box, the quantity of turns to be done for a complete operation cycle 90° will be conditioned by the transmission ratio of the gear box.

Ref.	Gear Ratio
5971 04	35:1
5971 05	55:1
5971 06	55:1

4.4 Torques

The maximum allowable output torque of the gear operator is as listed below:

Ref.	Torque (Nm)	
	Input	Output
5971 04	22	200
5971 05	42	600
5971 06	70	900

To install a double-acting actuator, the torque of the valve with the corresponding safety factor must be taken into account.

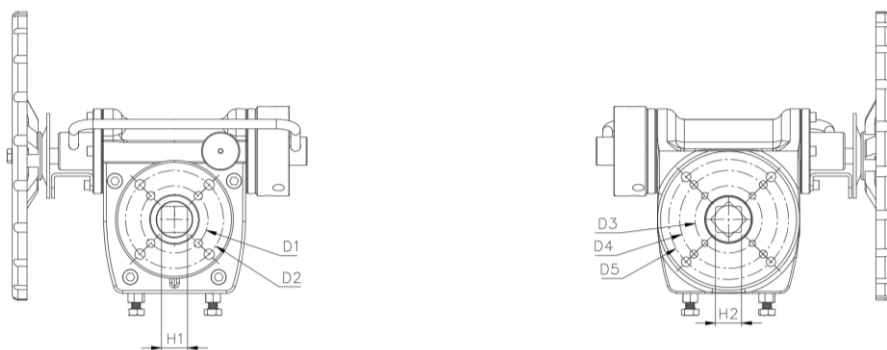
To install a single-acting actuator, the torque exerted by the actuator with the springs to close the valve must be taken into account.

Important:

To operate the valve and actuator manually, there is no air pressure inside the actuator.

4.5 Connections Dimensions

The gear operator are designed for mounting on the valve and actuator according to ISO 5211 standard.



Ref.	Connection with actuator		Connection with valve	
	H1 x H1	ISO 5211 (D1 – D2)	H2 x H2	ISO 5211 (D3 – D4 – D5)
5971 04	14	F05 / F07	17	F05 / F07
5971 05	22	F07 / F10	27	F07 / F10
5971 06	27	F07 / F10	27	F07 / F10 / F12

5. Maintenance operations

Gear operators are designed so that they do not need any lubrication and/or periodical maintenance during their life cycle. However, periodical checks will be useful to extend the service life of the product. Verify all locks and threaded ends to check if they are loose or with rust. Tighten them if necessary.

6. Hygiene and Safety Instructions

6.1) Fluids that go through the valve can be corrosive, toxic, flammable or pollutant. When operating valves, you must follow the security instructions and it is recommended to use personal protection gadgets:

- 1) Protect your eyes.
- 2) Wear gloves and appropriate working clothes.
- 3) Wear safety footwear.
- 4) Wear a helmet.
- 5) Have running water at hand.
- 6) To operate flammable fluids, make sure you have an extinguisher at hand.

6.2) Before removing a valve from a pipe, check always if the line is completely drained and depressurized.