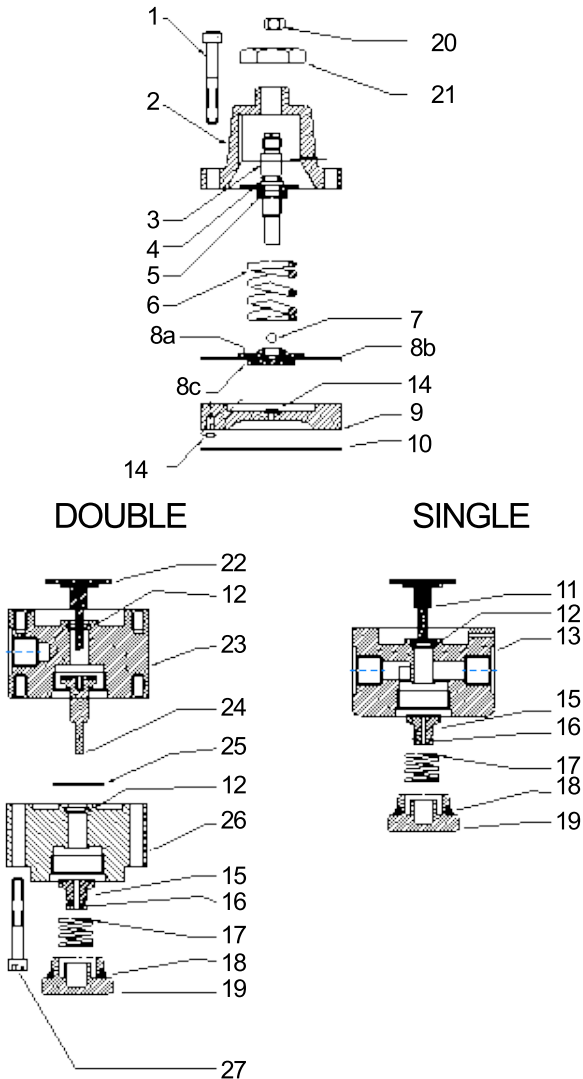


Installation, Regulation and Maintenance Instructions

Lock-up valves
Series 04 - 1/4"NPT



PART LIST

POS	DESCRIPTION
1	SCREW
2	BONNET
3	SCREW ADJUSTING
4	O-RING
5	SPRING PRESSER
6	REGULATING SPRING
7	SPHERE
8a	SPRING SEAT
8b	UPPER DIAPHRAGM
8c	SPHERE SEAT
9	INTERMEDIATE BODY
10	LOWER DIAPHRAGM
11	PISTON
12	O-RING
13	BODY
14	O-RING
15	VALVE ASSEMBLY
16	O-RING
17	SPRING VALVE
18	O-RING
19	BOTTOM PLUG
20	NUT
21	PANEL MOUNTING NUT
22	PISTON (DOUBLE)
23	UPPER BODY (DOUBLE)
24	VALVE ASSEMBLY (DOUBLE)
25	RETAINING RING
26	LOWER BODY /DOUBLE)
27	SCREW

HOW TO ORDER

TYPE

LK = Lock-up Valve

SIZE

04= 1/4" NPT
08= 1/2" NPT

RANGE

3= 0/100 psi

ACCESSORIES

0= None
2= SS bracket kit
4= Customised Tag

Specials

#

LK043000SSFK2

#

OPTION

00= None
08= Double lock-up valve

MATERIAL

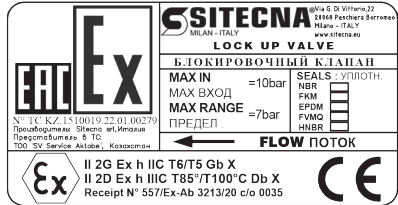
SS= 316-316L Stainless steel
AL= Copper free aluminum alloy

DIAPHRAGM & SEALS MATERIAL

FK= FKM (WT-25° +90°C)
NB= NBR (WT-20° +80°C)
LT= EPDM (WT-40° +80°C)
FL= Special compound (WT-60°+90°C)
HN= HNBR (WT -60°C +90°C)

REPAIRING KIT
Not available

LABEL



1. INTRODUCTION

Throughout this manual there are a number of HAZARD WARNINGS that must be read and adhered to in order to prevent possible personal injury and/or damage to equipment. Three signal work "DANGER", "WARNING" and "CAUTION" are used to indicate the severity of a hazard, and are preceded by the safety alert symbol.

⚠ Danger Denotes the most serious hazard and is used when serious injury or death WILL result from misuse or failure to follow specific instructions.

⚠ Warning Used when serious injury or death MAY result from misuse or failure to follow specific instructions.

⚠ Caution Used when injury or product/equipment damage may result from misuse or failure to follow specific instructions.

⚠ Caution It is the responsibility and duty of

⚠ Warning all personnel involved in the installation, operation and maintenance of the equipment on which this device is used, to fully understand the procedures by which hazards can be avoided.

The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Only personnel with appropriate training should operate machinery and equipment.

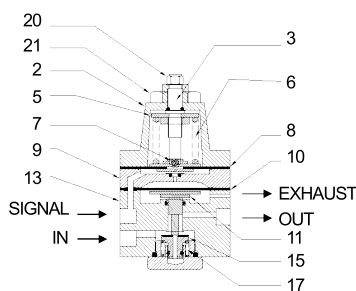
Do not service or attempt to remove the machinery or equipment until safety is confirmed.

2. DESCRIPTION

Lock Up Valve, LK04 sense the main supply pressure and shuts down the air flow when the pressure is lower than setting level to avoid system shutdown or damages to pipeline.

3. OPERATION

When signal pressure is greater than setting pressure level, upper diaphragm (8) is pushed upward by signal pressure. As it gets pushed upward, vent port through lower diaphragm (10) opens, so signal pressure pushes down lower diaphragm (10). Lower diaphragm (10) pushes push-shaft (11) and push-shaft (11) pushes disk-seat (13), which supplies pressure will vent out through Lock Up Valve. Oppositely, when signal pressure is less than setting pressure level, upper diaphragm (8) is pushed downward and lower diaphragm (10) will block signal-in port. Ball (7) will be detached from upper diaphragm (8) and the pressure will be exhausted



4. PNEUMATIC DIAGRAM

Fig.1 Single Lock-up

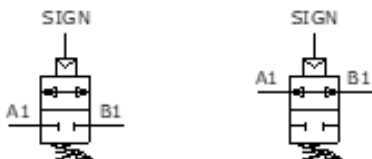
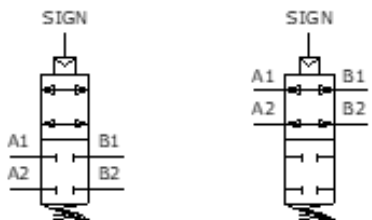


Fig.2 Double lock-up



5. TECHNICAL FEATURES

Medium: compressed air, inert gases, sweet and sour gas-
Port thread: 1/4"NPT

Max supply pressure: 10 bar

Max signal/output: 7 bar

Materials: Body SS316L or copper free aluminum alloy
Internal parts Stainless Steel

MATERIAL		TEMPERATURE		
DIAPHRAGM	SEALS	TRANSPORT	STORAGE	OPERATING
NBR	NBR	-20°C...+80°C	-20°C...+80°C	-20°C...+80°C
FKM	FKM	-25°C...+90°C	-25°C...+90°C	-25°C...+90°C
EPDM	EPDM	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C
FVMQ	FVMQ	-60°C...+90°C	-60°C...+90°C	-60°C...+90°C
HNBR	HNBR	-60°C...+90°C	-60°C...+90°C	-60°C...+90°C

6. TRANSPORTATION & STORAGE

The preferred storage location is a clean, dry and protected warehouse. If the components have to be stored outside, precautions should be taken to keep valves clean and dry. For storage temperatures, refer to the table in paragraph "TECHNICAL FEATURES".

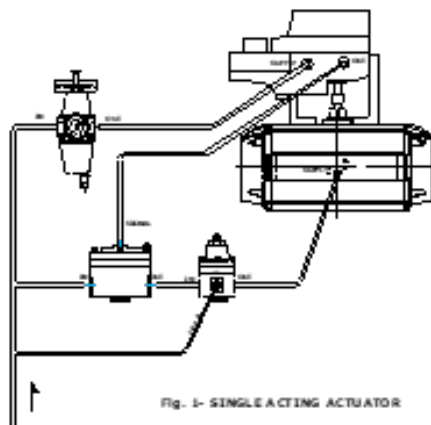
To avoid contamination of impurities during the storage period, don't remove thread protection caps; remove them just before the installation phase.

7. INSTALLATION

⚠ Warning Before performing any work, read this manual and study all figures. Assure yourself that you understand and you can do what is required in each step. Failure to follow these instructions may affect quick release valve operation and may result in exposure to personal injury.

Before installing the valve, set and block the machine or equipment in a secure position; close the air shutoff valve and exhaust air from air lines and disconnect all electrical power.

- ⚠ Caution** It is recommendable to check its conditions before the installation.
- Install the Lock-up valve to achieve the desired switching results. Connect the control pressure line to either SIGN port. The port labelled port A1 (single LK) A2 (double LK) is the inlet connections and ports B1 (single LK) B2 (double LK) is the outlet connections.
- Apply a good grade of pipe compound to the external pipe threads before making connections, making sure not to get the pipe compound inside the switching valves.
- Install tubing fitting or piping into the threaded NPT inlet and signal connection on the body and into the threaded NPT outlet connection.



8. TESTING

- With proper installation completed and downstream equipment properly adjusted, slowly open the upstream and downstream shut-off valve (when used) while using pressure gauges to monitor pressure.
- If outlet pressure adjustment is necessary, monitor outlet pressure with a gauge during the adjustment procedure. The lock-up valve is adjusted by loosening the hex nut (20), if used, and turning the adjusting screw (3) clockwise to increase or counterclockwise to decrease the outlet pressure setting. Retighten the hex nut to maintain the adjustment position.

10. MAINTENANCE

⚠ Warning Before performing any work, read this manual and study all figures. Assure yourself that you understand and can do what is required in each step. Failure to follow these instructions may affect quick release valve operation and may result in exposure to personal injury. Before uninstalling the valve, set and block the machine or equipment in a secure position; close the air shutoff valve and exhaust air from air lines; disconnect all electrical power.

A. Ordinary maintenance

⚠ Caution The LK should be periodically checked for proper functioning:

- Clean the LK from impurities and dirt;
- Visually check of the integrity of the body and cup of LK;
- Check that there aren't leakages;
- Check the correct functionality of the LK.

B. Troubleshooting

Issue	Possible Cause	Fixes
when the signal is off, the valve is open	valve seat	Check valve seat or contact SITECNA technical support for more information
leakage / high bleed	bonnet or retainer screws valve o-ring diaphragm assemblies	Tighten the bonnet or retainer screws If damaged, replace valve, o-ring and diaphragm or contact SITECNA technical support for more information

After replacing repeat the "TESTING" phase

C. Disassembly

- Disassemble in general accordance with the item numbers on exploded view.

D. Maintenance

- Place the diaphragm assembly (8) on the body (13) for single LK or (23) for double LK. Push down on the diaphragm assembly.
- Stack the ball (7) and control spring (6) onto the diaphragm assembly (7).
- Install the cover (2) and screw adjusting (3) on the body.
- Install the six screws (4).
- Lubricate the adjusting screw (3).

E. Assembly

- Assemble in general accordance with the item numbers on exploded view.

11. MARKING ACORDING TO 2014/34/UEAtex

II 2G Ex h IIC T6/T5 Gb X
II 2D Ex h IIIC T85°C/T100°C Db X

For using these equipment in potentially explosive atmospheres, it is recommended - for the installation and the maintenance operation - to use tools and instruments that can produce only a single spark (for instance: screwdrivers, spanners). Avoid use of tools that can produce sparks like disk saw or grinder

Action must be taken to put to earth the units through a suitable connection, checking that all the metal components (fittings and pipe line) have to be equitable potential. Equipment have to be installed in the corresponding zone according to the marking.

NOTE: special conditions for safe use (X conditions)

Before performing any work, read this manual and assure yourself you understand. X at the end of ATEX substitutes T amb depending on used seals based on the following correspondance:

Series VB, EP, VSR, LK04: NBR=-20°C+80°C, FMK=-25°C+90°C, EPDM=-40°C+80°C, FVMQ & HNBR=-60°C+90°C
Series: DP, RF, LK08, TF: NBR=-20°C+80°C, FMK=-25°C+90°C, EPDM=-40°C+80°C, FVMQ & HNBR=-55°C+90°C
Serie FP: -30°C+180°C / Series SLHF, SLVP, SLSC: -55°C+150°C
Serie PV, PVSL: -20°C+80°C / Serie SCLP: 2°C+80°C
Serie FLGS: -20°C+90°C / Serie VS: -50°C+230°C

Dichiarazione di conformità UE

In accordo con la Direttiva Europea 2014/34/UE

EU-Declaration of Conformity

In accordance with Directive 2014/34/EU

Noi, Sitecna Srl, dichiariamo che i seguenti prodotti / Sitecna Srl declares that the following equipment:

Product	mod.	Product	mod.	Product	mod.
Filter	F	Control spool valve	DP	Vacuum pump	ST-VP
Regulator	R	Poppet Valves	EP	Silencer	SLHF, SLVP, SLSC
Filter Regulator	FR	Quick exhaust valve	VSR	Dust excluder	PV, PVSL
Back Pressure valve	BP	Lock-up valve	LK	Pressure gauge	MBSS, MBS6, MBSN
2 ways switching valve	SV	Overload protector	SCLP	Vacuum pump	ST-VP
3 ways switching valve	S3	Flow regulator	RF	Ball valve	VS
Volume Booster	VB	Tee Filter	TF		

Sono conformi alla normativa di armonizzazione dell'Unione / They comply with the Union harmonization legislation:

Direttiva 2014/34/UE ATEX	Direttiva 2014/34/UE del Parlamento europeo e del Consiglio, del 26 febbraio 2014, concernente l'armonizzazione delle legislazioni degli Stati membri relative agli apparecchi e sistemi di protezione destinati a essere utilizzati in atmosfera potenzialmente esplosiva (rifusione) Testo rilevante ai fini del SEE.
	Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast) Text with EEA relevance.

Secondo le seguenti Norme di riferimento / As per following reference Normative Documents:

EN ISO 80079-36:2016	Atmosfere esplosive - Apparecchi non elettrici per atmosfere esplosive - Metodo di base e requisiti
	Explosive atmospheres - Non-Electrical equipment for explosive atmospheres - Basic method and requirements
EN ISO 80079-37:2016	Atmosfere esplosive - Apparecchi non elettrici per atmosfere esplosive - Tipo di protezione non elettrica per sicurezza costruttiva "c", per controllo della sorgente di accensione "b", per immersione in liquido "k"
	Explosive atmospheres - Non-Electrical equipment for explosive atmospheres - Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k"
N 1127-1:2011	Atmosfere esplosive - Prevenzione dell'esplosione e protezione contro l'esplosione - Concetti fondamentali e metodologia
	Explosive atmospheres - Explosion prevention and protection - Basic concepts and methodology

Ai sensi della Direttiva 2014/34/EU, i prodotti sopra indicati riportano la seguente marcatura / According to the Directive 2014/34/EU, above mentioned products reports the following marking:



II 2G Ex h IIC T6/T5 Gb X
II 2D Ex h IIIC T85°C/T100°C Db X

Inoltre, ai sensi della direttiva 2014/34/UE, i prodotti sopra menzionati sono oggetto, per gli aspetti relativi sia alla progettazione sia alla fabbricazione, al controllo interno di fabbricazione (Allegato VIII – Modulo A). Ref 557/Ex-Ab 3213/20 c/o N° 0035 TÜV Rheinland.

In conformity to Directive 2014/34/EU, the afore mentioned equipment, regarding their design and production, are object to internal manufacturing check (Attachment VIII – Module A). Ref 557/Ex-Ab 3213/20 c/o N° 0035 TÜV Rheinland.

La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.

This declaration of conformity is issued under exclusive responsibility of the manufacturer.

Milan, 08/02/2022
Davide Matteo De Corrado
Managing Director

