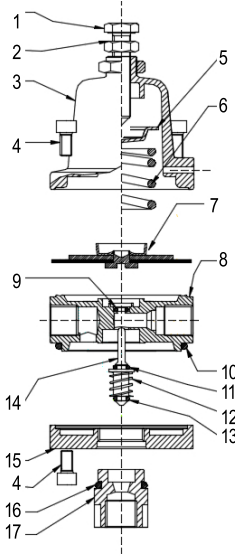


2 ways switch valve



3 ways switch valve

PART LIST

Pos.	Q.ty SV	Q.ty S3	Descrizione/
1	1	1	ADJUSTMENT SCREW
2	1	1	NUT
3	1	1	COVER
4	8	8	SCREW
5	1	1	UPPER SPRING SEAT
6	1	1	SPRING
7	1	1	DIAPHRAGM ASSEMBLY
8	1	1	BODY
9	1	1	O-RING
10	1	1	O-RING
11	0	1	O-RING
12	0	1	SPRING VALVE
13	0	1	O-RING
14	0	1	VALVE
15	0	1	BOTTOM
16	0	1	O-RING
17	0	1	SEAT VALVE
18	1	0	VALVE
19	1	0	O-RING
20	1	0	SPRING VALVE
21	1	0	BOTTOM

Installation, Regulation and Maintenance Instructions

Switch Valves
Series 04 - 1/4"NPT

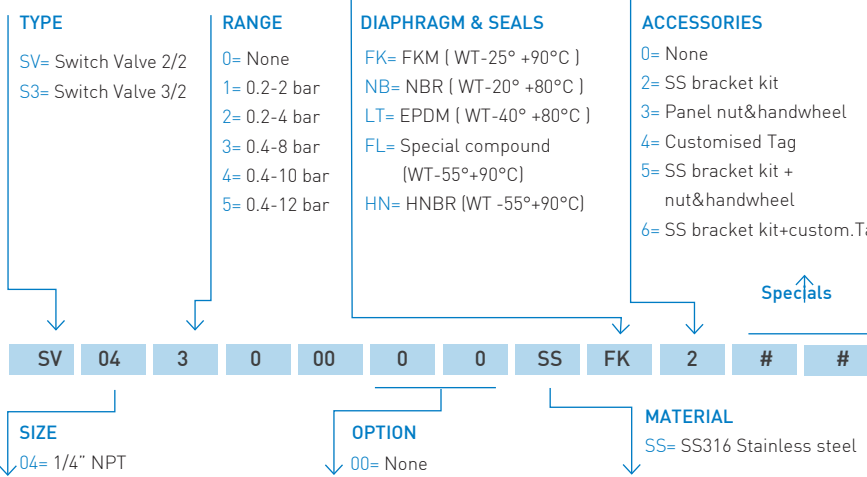
REPAIR KIT

SV switching valve: K-SV04-SS-** composed by parts 7, 10, 18, 19, 20
S3 switching valve: K-S304-SS-** composed by parts 7, 10, 11, 12, 13, 14, 16
** refers to seal type NB=NBR, FK=FKM, LT=EPDM, FL=FVQM, HN=HNBR



For technical information refer to the corresponding technical data sheet

HOW TO ORDER



LABEL

2/2 Ways Switching Valve
Ходовой переключающий клапан

MAX IN / MAX ВХОД = 8 bar
MAX SIGN / MAX СИГН = 7 bar

IEC 61508 SIL

№ TC KZ.1510019.22.01.00279
Производитель: Sitecna srl, Италия
Представитель в TC: TOO 'SV Service Aktobe', Казахстан

II 2G Ex h IIC T6/T5 Gb X
II 2D Ex h IIC T85°/T100° C Db X
Receipt N° 557/Ex-Ab 3213/20 c/o 0035

2 ways switch valve

3 ways switching valve
3-ходовой переключающий клапан

MAX IN / MAX ВХОД = 8 bar
MAX SIGN / MAX СИГН = 7 bar

IEC 61508 SIL

№ TC KZ.1510019.22.01.00279
Производитель: Sitecna srl, Италия
Представитель в TC: TOO 'SV Service Aktobe', Казахстан

II 2G Ex h IIC T6/T5 Gb X
II 2D Ex h IIC T85°/T100° C Db X
Receipt N° 557/Ex-Ab 3213/20 c/o 0035

3 ways switch valve



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 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.DESCRPTION

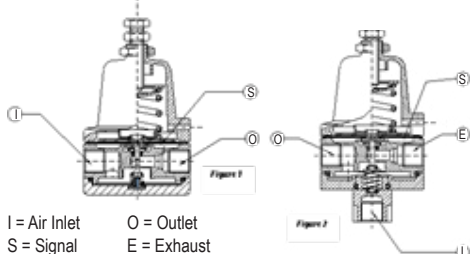
The SV and S3 Series switching valves are pneumatically operated and controlled units, built with a wide range of capabilities to handle those switching applications that involve venting, on-off control, and failure modes.

- The Types SV are two-way switching valves.
- The Types S3 are three-way switching valves.

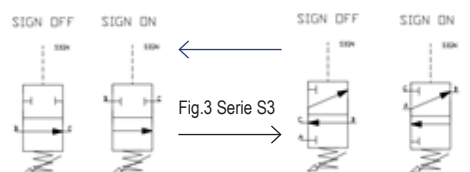
3. OPERATION

Switching valve SV (Fig.1): the control pressure enters the switching valve through port S (not shown) and is present under the diaphragm. Control pressure overcomes the spring force and the diaphragm raise together with the valve, closing port C and B. When spring force is higher than the Control pressure, port C and B are open and there's a flow from path B to C.

Three-way switching valve S3 (Fig.2): Control pressure enters the switching valve through port S (not shown) and is present under the diaphragm. Control pressure overcomes the spring force and the diaphragm raises the valve, closing port C and opening port B. In this condition, the Type S3 construction is turned off and provides flow from path A to B. If, either intentionally or through pneumatic failure, the control pressure drops below the spring force, the diaphragm and valve plug move downward, opening port C and closing port A. In this condition Type S3 provide a flow path from port B to port C. The pressure value necessary to switch the valve depends on the spring used and the setting of the adjusting screw on the switching valve.



4. PNEUMATIC DIAGRAM



5. TECHNICAL FEATURES

Medium: compressed air, inert gases, filtered, lubricated and not lubricate

Port thread: 1/4"NPT
Signal port: 1/8"NPT
Max supply pressure: 8 bar
Max signal output: 7 bar
Materials: Body and bonnet - SS16/316L
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	-55°C...+90°C	-55°C...+90°C	-55°C...+90°C
HNBR	HNBR	-55°C...+90°C	-55°C...+90°C	-55°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 switching valve to achieve the desired switching results. Connect the control pressure line to either S port. Verify that the other S port is plugged. The port labelled port A is the inlet connection and ports B is the outlet connections and the connection C is the exhaust.
- 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 connections.

8. MOUNTING

⚠ Caution For Energize-to-trip operation: All the requirements of IEC 61511-1 par. 11.2.11 shall be met. For this reason, as a pressure switch or pressure transmitter mounted downstream the switching valves or upstream the switch valve (signal line) would be ineffective, the corresponding tubing connections' length shall be reduced at a minimum.

NOTE

⚠ Warning As option is available an "Anti-tamper system" to avoid the un-authorized modification of the setting. This option is mandatory for safety related applications.

9. TESTING

1. 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.
2. If outlet pressure adjustment is necessary, monitor outlet pressure with a gauge during the adjustment procedure. The switching valve is adjusted by loosening the hex nut (key 2), if used, and turning the adjusting screw or handwheel (key 1) 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** Switches should be periodically checked for proper functioning:
- Clean the SV and S3 from impurities and dirt;
- Visually check of the integrity of the body and cup;
- Check that there aren't leakages;
- Check the correct functionality of the SV and S3.

B. Troubleshooting

Issue	Possible Cause	Fixes
when the signal is off, the valve does not close	valve seat diaphragm assembly	Check valve seat. Ensure that the diaphragm is not punctured or contact SITECNA technical support for more information
leakage / high bleed	bonnet or retainer screws reliefe valve Supply valve sippy seat diaphragm assemblies	Tighten the bonnet or retainer screws If contaminated clean the source. If damaged, install or contact SITECNA technical support for more information

After replacing repeat "TESTING" phase

C. Disassembly

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

D. Maintenance

1. If sufficient clearance exists, the body (8) may remain mounted on other equipment or in a line or panel during maintenance unless the entire switching will be replaced.
2. Place the diaphragm assembly (7) on the body (8). Push down on the diaphragm assembly to make sure the valve plug (14) strokes smoothly.
3. Stack the control spring (key 6) and upper spring seat (5) onto the diaphragm assembly (7).
4. Install the cover assembly (3) on the body (8).
5. Install the four screws (4)
6. Lubricate the adjusting screw (1)

Valve Maintenance

1. Unscrew the spring retainer (17) and separate the spring retainer and O-ring (16) from the body (8). For model S3
2. Inspect the removed parts for damage and debris. Replace any damaged parts. Apply a high quality lubricant to the O-ring (13 and 11) before reassembling.
3. To remove the valve (14), grasp the end and pull it straight out of the body (8). Inspect the parts for damage and debris. Replace any damaged parts. The valve stem may be cleaned or replaced.
4. Install valve by sliding the valve through center of the seat in the body (8) until the valve plug contacts the seat. Apply lubricant to O-ring (16) and thread in spring retainer (17).

Diaphragm Maintenance

1. Back out the adjusting screw or handwheel (1) until compression is removed from the spring (6).
2. Remove the Allen keys (4) to separate the cover assembly (3) from the body (8). Remove the upper spring seat (5) and the control spring (6).
3. Remove the diaphragm assembly (7), inspect the diaphragm, and replace the assembly, if necessary

G. Assembly

1. 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 IIC 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°+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	Flowmeter	FLGS
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 1127-1:2019	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, 07/02/2022
Davide Matteo De Corrado
Managing Director

