FK
DN 350-400

VALVOLA A FARFALLA
(PVC-U, PP-H, PVDF)

BUTTERFLY VALVE
(PVC-U, PP-H, PVDF)

VANNE A PAPILLON
(PVC-U, PP-H, PVDF)

ABSPERRKLAPPE
(PVC-U, PP-H, PVDF)

FIP

aliaxis

INTRODUZIONE
Le presenti istruzioni devono essere lette prima dell'installazione e/o messa in servizio al fine di evitare danni a cose o pericoli alle persone.

SIMBOLI
In queste istruzioni per l'uso, vengono impiegate le seguenti illustrazioni come simboli di avvertimento e di indicazione.

INDICAZIONE
Questo simbolo segnala l'indicazione che installatore/gestore deve particolarmente osservare.

ATTENZIONE!
Questo simbolo si riferisce a operazioni e istruzioni che devono essere precisamente eseguite, al fine di evitare danni o distruzioni del dispositivo.

PERICOLO!
Questo simbolo si riferisce a operazioni e istruzioni, che devono essere precisamente eseguite, al fine di evitare pericoli alle persone.

TRASPORTO E IMMAGAZZINAMENTO
Le valvole non devono subire urti o cadute che potrebbero pregiudicare la resistenza strutturale delle parti soggette a pressione. Le valvole devono essere stoccate in ambienti con la temperatura compresa tra 0° e 40°C, e non devono essere sottoposte ad irraggiamento U.V.

AVVERTENZA
Evitare sempre brusche manovre di chiusura e proteggere la valvola da manovre accidentali. A tale scopo si consiglia di prevedere l'installazione di riduttori di manovra, fornibili su richiesta.

DICHIARAZIONE DI CONFORMITÀ
Disponibile al seguente link: https://www.aliaxis.it/website/aliaxis-it/DOWNLOAD/CERTIFICATI-FIP/PED_2014-68-UE/Declaration_PED_FIP.pdf

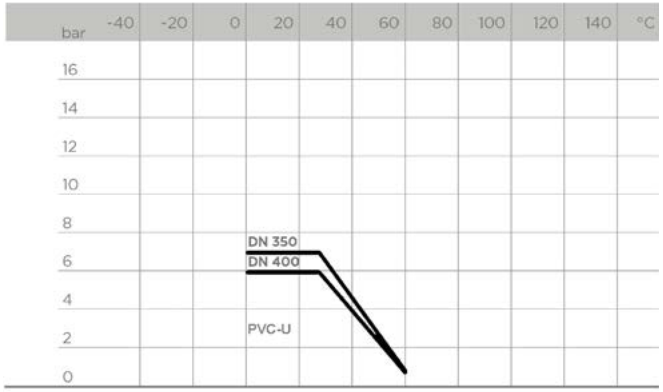
DATI TECNICI

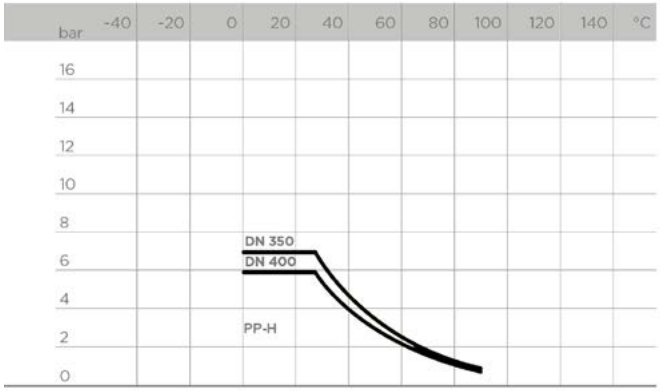
CARATTERISTICHE DEL MATERIALE
Le pressioni massime di esercizio delle valvole FIP, per il trasporto di acqua fino a 20° C, sono indicate nella tabella al punto **1**. Per temperature superiori a 20° C le pressioni massime di esercizio si devono ridurre come illustrato dalle curve al punto **2**. FIP pubblica inoltre una guida alla resistenza chimica dei materiali termoplastici ed elastomerici all' interno proprio sito internet (www.aliaxis.it): essa riporta il campo di utilizzo delle valvole FIP (corpo e guarnizioni) per il trasporto dei prodotti chimici.

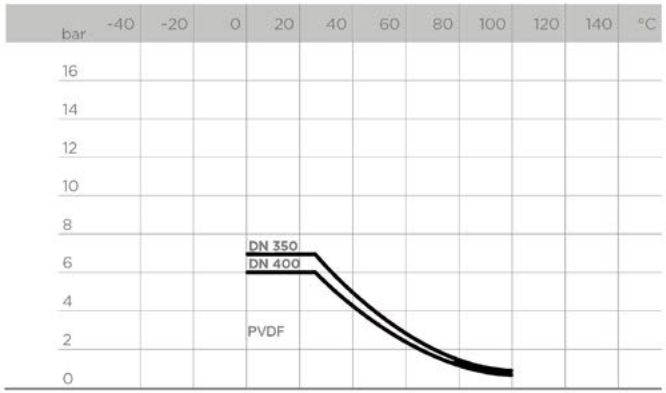
1 PRESSIONE MASSIMA DI ESERCIZIO A 20° C

Size	mm	D355 DN 350	D400 DN 400
PVC-U	bar	7	6
PP-H	bar	7	6
PVDF	bar	7	6

2 VARIAZIONE DELLA PRESSIONE IN FUNZIONE DELLA TEMPERATURA







3 TEMPERATURA DI ESERCIZIO (°C)

	T min. (°C)	T max. (°C)
PVC-U	0	60
PP-H	0	90
PVDF	0	100

4 COEFFICIENTE DI FLUSSO Kv100

Per coefficiente di flusso kv100 si intende la portata Q in litri al minuto di acqua a 20°C che genera una perdita di carico Δp = 1 bar per una determinata apertura della valvola. I valori riportati nelle tabelle si riferiscono a valvola completamente aperta.

D	d355	d400
DN	DN350	DN400
Kv100 l/min	94100	124900

Pos	Componenti	Materiale	n°
1	Corpo	PP-GR	1
2	Rondella	Acciaio inox	1
3	Bussola superiore	PPH	1
4	O-Ring per bussola	EPDM o FKM	6
5	Bussola inferiore	PPH	1
6	Rondella premiguarnizione	Acciaio inox	2
7	Guarnizione primaria	EPDM o FKM	1
8	Anello antifrizione	PTFE	2
9	O-Ring	EPDM o FKM	2
10	Disco	PVC, PP, PVDF	1
11	Rondella	Acciaio inox	1
12	Rondella	Acciaio inox	1
13	Tappo di protezione	PE	1
14	Vite	Acciaio inox	1
16	Stelo	Acciaio inox AISI 316	1
17	O-Ring	EPDM o FKM	2
18	Anello Seeger	Acciaio inox	1
20	Riduttore a volantino	Al / Acciaio	1
21	Spina elastica	Acciaio inox	2
22	Rondella	Acciaio inox	1
23	Indicatore pos.	ABS	1

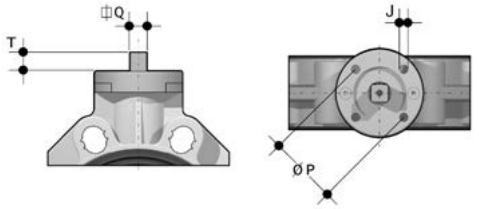
5 COPPIA DI MANOVRA ALLA MASSIMA PRESSIONE DI ESERCIZIO

Size	mm mm	D355 DN 350	D400 DN 400
	Nm	480	625

6 AUTOMATISMI

La valvola può essere fornita, a richiesta, completa di servocomandi. Esiste comunque la possibilità di applicare direttamente attuatori pneumatici, elettrici standard e riduttori a volantino per operazioni gravose, grazie alla torretta in riproducente la dima di foratura prevista dalla norma ISO F12 F14.

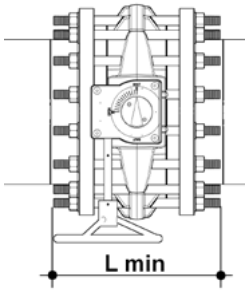
d	DN	J	P		T	Q
355	**350**	14/18	125/140	F12/14	29	27
400	**400**	14/18	125/140	F12/14	29	27



7 DIMENSIONI DEI BULLONI DA UTILIZZARE NELL'INSTALLAZIONE

Coppia di serraggio per ottenere la tenuta in prova idraulica (1,5 x PN a 20° C) (bulloneria nuova o lubrificata).

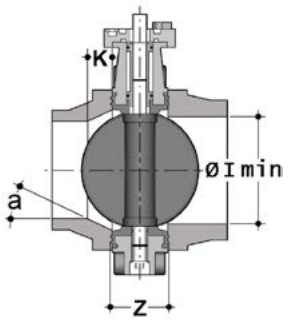
d	DN	L min	*Nm
355	350	M20x360	75
400	400	M24x240	75



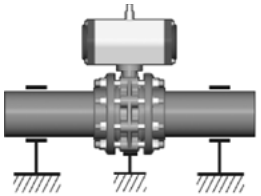
INSTALLAZIONE SULL'IMPIANTO

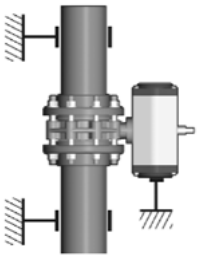
A Prima di effettuare l'installazione della valvola è opportuno verificare che il diametro di passaggio del collare (l min) consenta la corretta apertura del disco. Per l'installazione si consiglia di utilizzare i collari FIP (Tab. sottostante) oppure verificare gli accoppiamenti valvola-collare-flangia e smussare secondo quote K - a ove necessario.

Valvola	Tubo			SDR 17,6		SDR 11		SDR 33	
d	d	l min.	Z	K	a	K	a		
355	**350**	324	129	45	25°	55	25°	17	30°
400	**400**	362	179	55	25°	80	25°	25	35°

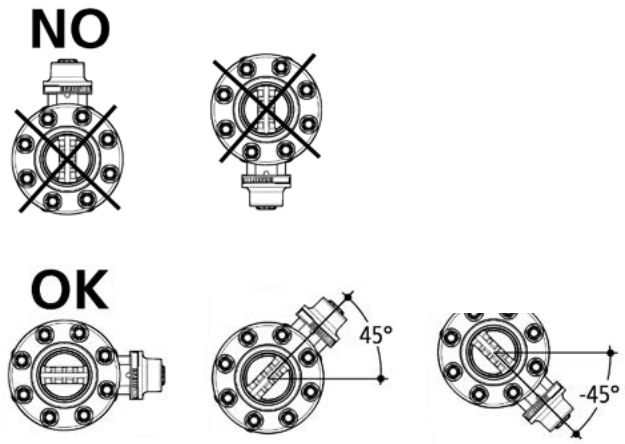


B Le valvole motorizzate devono essere adeguatamente supportate.



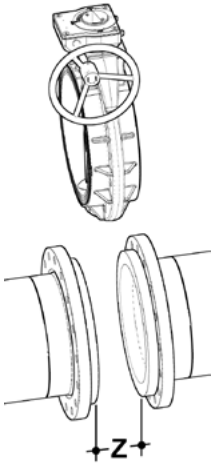


C **CONVOGLIAMENTO FLUIDI NON PULITI, O CON SEDIMENTO**



⚠ **MOMENTO DI SERRAGGIO**
Istallazione: 1-2-3
Disinstallazione: 3-2-1

1



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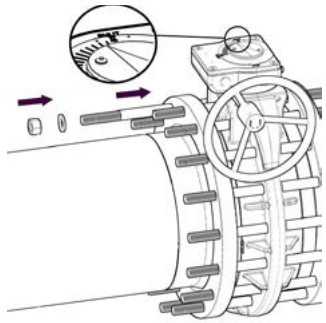

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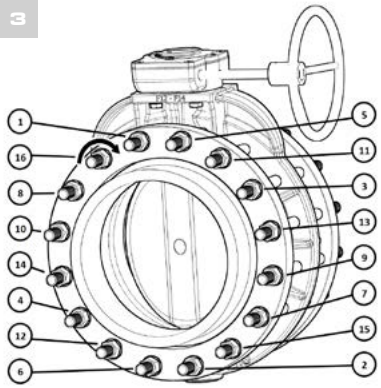
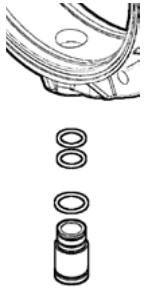


ASSIEMAGGIO

Montaggio: 4-15
Smontaggio: 15-4
Lubrificare la guarnizione

4



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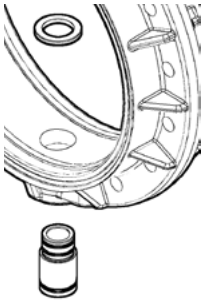

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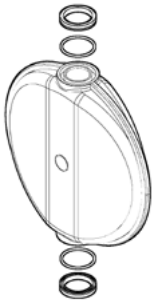

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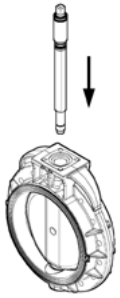

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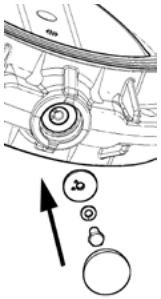

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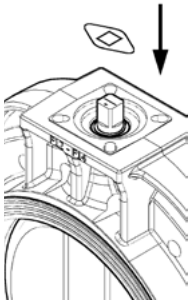

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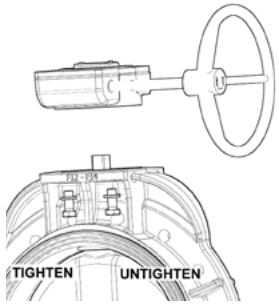

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TRASPORTO E IMMAGAZZINAMENTO
Il box non deve subire urti o cadute che potrebbero pregiudicare la resistenza strutturale delle parti.
Il box deve essere stoccato in ambienti con la temperatura compresa tra -10 °C e 50 °C, e non deve essere sottoposto ad irraggiamento U. V.

DICHIARAZIONE DI CONFORMITÀ
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LSQT - BOX DI FINE CORSA ¼ DI GIRO

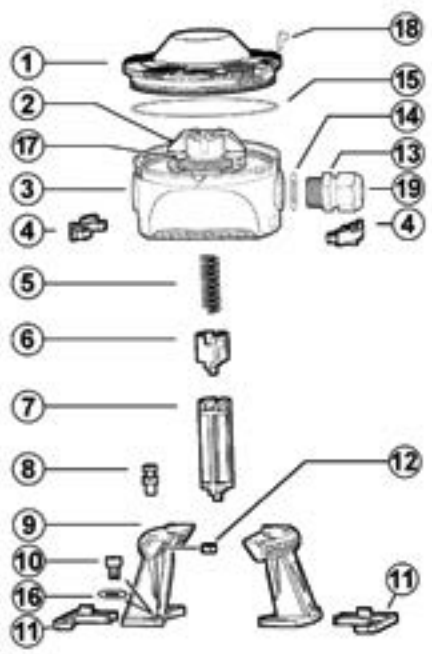
AVVERTENZE

PRIMA DI INSTALLARE IL BOX LEGGERE LE PRESENTI ISTRUZIONI

Per evitare il ferimento, la morte o danni importanti ad oggetti, leggere e seguire le istrizioni di sicurezza presenti in questo manuale

TENSIONE PERICOLOSA
Scollegare l'alimentazione elettrica prima di operare sull'apparecchiatura.

ATTENZIONE! NON RIMUOVERE IL COPERCHIO QUANDO L'APPARECCHIO È SOTTO TENSIONE
Non superare le limitazioni di utilizzo degli switch.
Il superamento dei limiti può causare danni all'apparecchio,
Il grado di protezione, dipende dal pressacavo e dal metodo di cabagglio usato. Limit awitch box per uso su valvola a quarto di giro (90° di rotazione). Seguire la seguente procedura prima di metere in servizio l'LSQT.



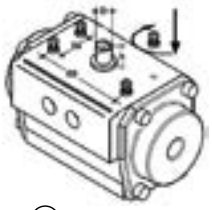
Pos.	Componenti	n°
1	Coperchio (Policarbonato)	1
2	Camme (POM nero)	2
3	Corpo (PP GF30% nero)	1
4	Clip di fissaggio (ABS nero)	2
5	Molla (Acciaio INOX)	1
6	Modulo di collegamento (PA66 GF30% nero)	1
7	Prolunga modulo (PA66 GF30% nero)	1
8	Perni di fissaggio (Acciaio INOX)	4
9	Staffa (PA66 GF30% nero)	2
10	Vite M5 (Acciaio INOX)	4
11	Prolunga staffa 130x30 (PA66 GF30% nero)	2
12	Dado M5 (Acciaio INOX)	4
13	Pressacavo (PA6)	1
14	O-ring pressacavo (EPDM)	1
15	O-ring coperchio (EPDM)	1
16	Rondella M5 (Acciaio INOX)	4
17	Indicatori (POM giallo)	3
18	Blocco di sicurezza (ABS nero)	1
19	Ghiera (PA6)	1

Il materiale del componente è indicato tra parentesi

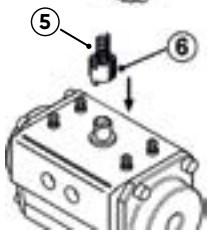
INSTALLAZIONE DIRETTA

Namur pattern 80x30, h: 20-30 mm, D ≤ 18 mm
Conforme alle disposizioni VDI/VDE3845

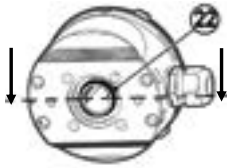
1 Avvitare, serrando fortemente fino alla battuta i quattro perni di blocco **(8)**



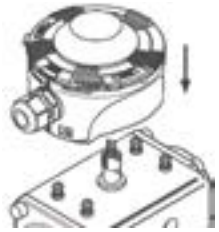
2 Posizionare il modulo **(6)** e la molla **(5)** sullo stelo dell'attuatore



3 Allineare il pignone **(22)** al modulo **(6)** posizionato sull'attuatore



4a Montare il box **(3)** sopra l'attuatore



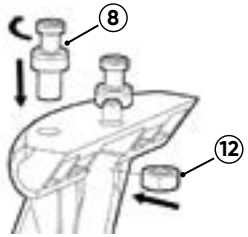
4b Accertarsi di portarlo fino alla battuta

5 Fissare il box ingaggiando le clips **(4)** sui perni di blocco fino a sentire un "click" che indica il corretto aggancio

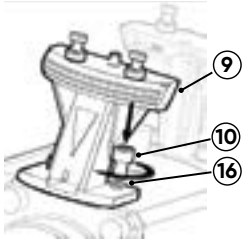
INSTALLAZIONE CON STAFFA

Namur pattern 80x30, h: 20-30 mm, D > 18 mm
Conforme alle disposizioni VDI/VDE3845

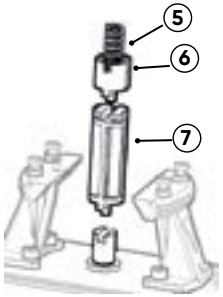
1 Inserire i 4 dadi **(12)** nelle rispettive sedi della staffa, avvitare, serrando fortememente fino alla battuta i quattro perni di blocco **(8)**



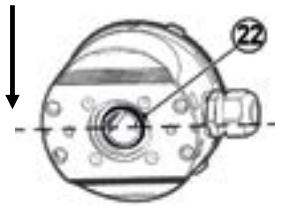
2 Fissare le due staffe **(9)** sopra l'attuatore utilizzando le quattro viti **(10)** e le quattro rondelle **(16)**



3 Posizionare modulo **(6)**, la molla **(5)** più prolunga **(7)** sullo stelo dell'attuatore



4 Allineare il pignone **(22)** al modulo **(6)** posizionato sull'attuatore



5 Montare il box sopra le staffe, accertandosi di portarlo fino a battuta

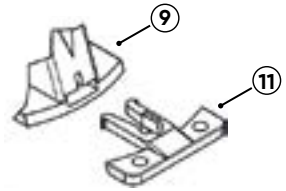
6 Fissare il box ingaggiando le clips sui perni di blocco **(4)** fino a sentire un "click" che indica il corretto aggancio

INSTALLAZIONE CON STAFFA.

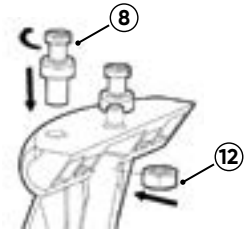
Namur pattern 130x30

Conforme alle disposizioni VDI/VDE3845

1 Inserire le estensioni **(11)** sulle staffe **(9)**

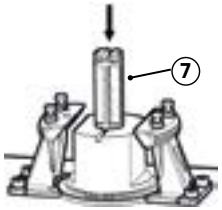


2 Inserire i quattro dadi **(12)** nelle rispettive sedi della staffa, avvitare serrando fortemente fino alla battuta i quattro perni di blocco **(8)**

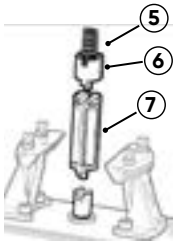


3 Fissare le due staffe **(9)** sopra l'attuatore utilizzando le quattro viti **(10)** e le quattro rondelle **(16)**

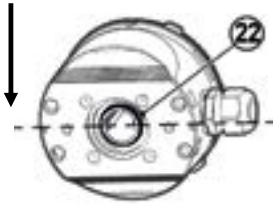
4a Altezza stelo 50 mm. Posizionare la sola prolunga sullo stelo **(7)** dell'attuatore



4b Altezza stelo ≤ 30 mm Posizionare modulo **(6)** e la molla **(5)** più prolunga **(7)** sullo stelo dell'attuatore

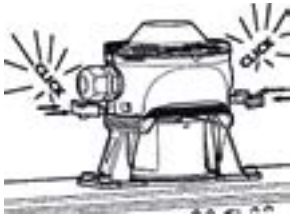


5 Allineare il pignone **(22)** al modulo **(6)** posizionato sull'attuatore



6 Montare il box sopra le staffe, accertandosi di portarlo fino a battuta

7 Fissare il box ingaggiando le clips sui perni di blocco **(4)** fino a sentire un "click" che indica il corretto aggancio



⚠ CABLAGGIO ELETTRICO - TENSIONE PERICOLOSA

Scollegare l'alimentazione elettrica prima di operare sull'apparecchiatura.

Controllare il corretto serraggio del pressacava **(13)**

Rimuovere la ghiera **(19)** sul cavo elettrico, quindi far passare i fili attraverso il pressacavo **(13)**.

Collegare i fili ai morsetti **(A)** secondo quanto riportato nello schema elettrico, vedi schema su etichetta.

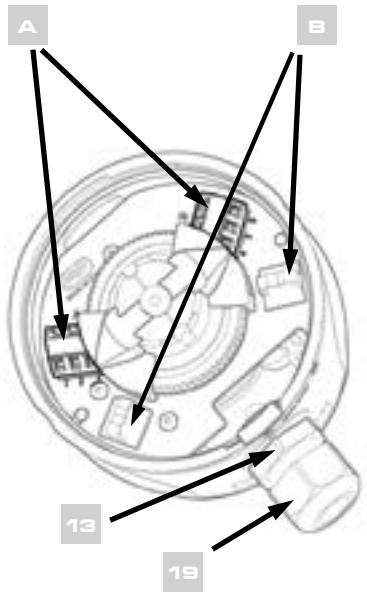
Serrare le viti dei morsetti **(A)** usando un cacciavite.

Raccogliere i fili dentro le due clips **(B)**.

Serrare fortemente la ghiera **(19)**.

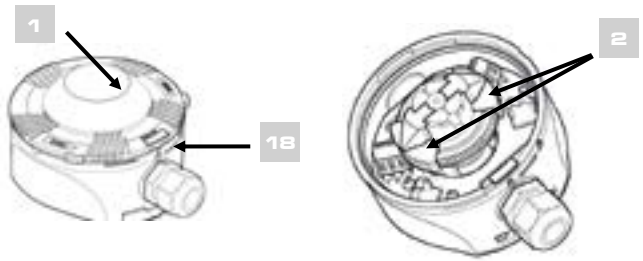
Rimontare il coperchio **(1)** ruotando in senso orario fino allo scontro.

Abbassare il blocco di sicurezza **(18)**.



TARATURA DEI MICROSWITCH E ALLINEAMENTO INDICATORI

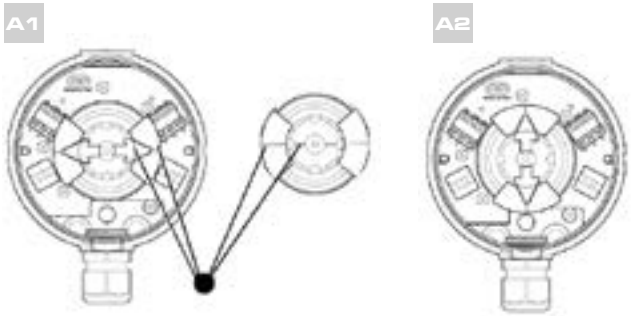
Sollevare il blocco di sicurezza **(18)** e ruotare in senso antiorario il coperchio **(1)** quindi rimuoverlo, se necessario, allineare secondo schemi **A, B, C**.



A 2 VIE NORMALMENTE CHIUSA (SENSO ANTIORARIO APERTURA)

A1) Posizione normalmente chiusa, allineare camme, pignone, indicatori, switch "**A"** impegnato.

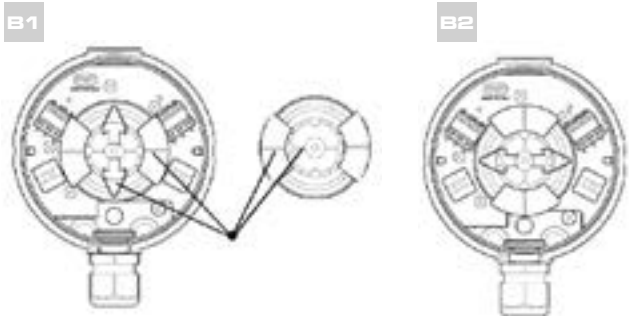
A2) Posizione alimentata, valvola aperta, switch "**B"** impegnato.



B 2 VIE NORMALMENTE APERTA (SENSO ANTIORARIO CHIUSURA)

B1) Posizione normalmente aperta, allineare camme e pignone, indicatori a 90° rispetto alle camme, switch "**A"** impegnato.

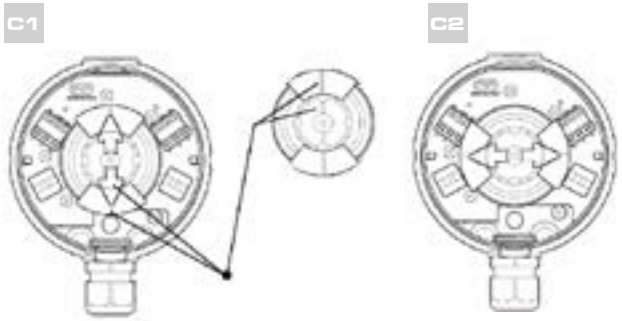
B2) Posizione alimentata, valvola chiusa, switch "**B"** impegnato.



C 2 VIE NORMALMENTE APERTA (SENSO ORARIO CHIUSURA)

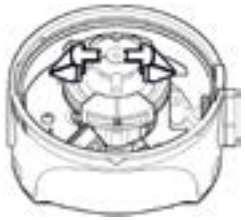
C1) Posizione normalmente aperta, allineare camme, pignone e indicatori a 90, switch "**B"** impegnato.

C2) Posizione alimentata, valvola chiusa, switch "**A"** impegnato.

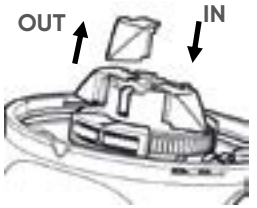


CONFIGURAZIONE DEGLI INDICATORI DI POSIZIONE PER VALVOLE A 2 VIE O 3 VIE

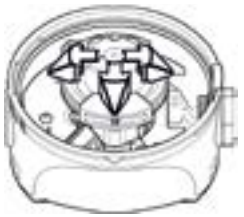
2 WAYS



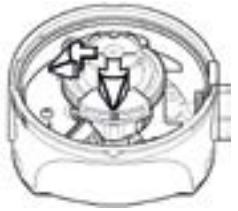
CHANGE



3 WAYS (T-type)



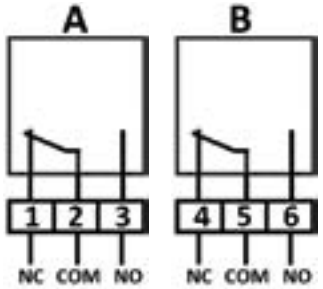
2 WAYS (L-type)



LSQTMEC - Box finecorsa elettromeccanici

Specifiche tecniche	
Costruzione	Box con due microinterruttori di fine corsa elettromeccanici ed indicatore ottico di posizione modulare
Tipo di interruttori	SPDT, OMRON D3V-16-1C5
Portata contatti	0,3A (250 VDC) - 0,6A (125 VDC) 2,5A (24 VDC) - 10A (250 VAC)
Grado di protezione	IP67 / DIN EN 60529
Temperatura di utilizzo	-10° / +50°C
Ingresso cavi	1 pressacavo M20x1.5 / 6-12mm

Schema elettrico LSQTMEC



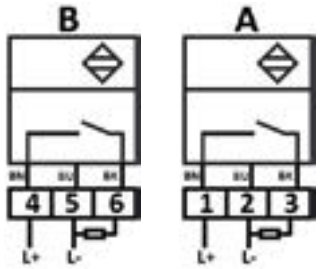
Schema elettrico

Dimensioni

LSQTPNP- Box finecorsa induttivi PNP

Specifiche tecniche	
Costruzione	Box con due microinterruttori di fine corsa induttivi PNP e indicatore ottico di posizione modulare
Tipo di interruttori	Induttivo PNP 3 fili, P+F NBN4-V3-E2
Tensione	10-30 V DC
Frequenza di commutazione	0-500 Hz
Corrente di esercizio	0-100mA
Corrente in assenza di carico	≤15mA
Grado di protezione	IP68 / DIN IEN 60529
Temperatura di utilizzo	-10° / +50°C
Ingresso cavi	1 pressacavo M20x1.5 / 6-12mm

Schema elettrico LSQTPNP



Schema elettrico

Dimensioni

RAEE

Rifiuti di apparecchiature elettriche ed elettroniche.

Questo prodotto rientra nel campo di applicazione della Direttiva 2012/19/UE riguardante la gestione dei rifiuti di apparecchiature elettriche ed elettroniche (RAEE).

L'apparecchio non deve essere eliminato con gli scarti domestici in quanto composto da diversi materiali che possono essere riciclati presso le strutture adeguate. Informarsi attraverso l'autorità comunale per quanto riguarda l'ubicazione delle piattaforme ecologiche atte a ricevere il prodotto per lo smaltimento ed il suo successivo corretto riciclaggio.

Si ricorda, inoltre, che a fronte di acquisto di apparecchio equivalente, il distributore è tenuto al ritiro gratuito del prodotto da smaltire.

Il prodotto non è potenzialmente pericoloso per la salute umana e l'ambiente, non contenendo sostanze dannose come da Direttiva 2011/65/UE (RoHS), ma se abbandonato nell'ambiente impatta negativamente sull'ecosistema.

Leggere attentamente le istruzioni prima di utilizzare l'apparecchio per la prima volta. Si raccomanda di non usare assolutamente il prodotto per un uso diverso da quello a cui è stato destinato, essendoci pericolo di shock elettrico se usato impropriamente.

Il simbolo del bidone barrato, presente sull'etichetta, indica la rispondenza di tale prodotto alla normativa relativa ai rifiuti di apparecchiature elettriche ed elettroniche. L'abbandono nell'ambiente dell'apparecchiatura o lo smaltimento abusivo della stessa sono puniti dalla legge.

INTRODUCTION
This Instruction manual should be read before the installation and / or put into service in order to avoid damage to property or danger to people.

SYMBOLS
The following illustrations are used throughout this manual to highlight where an instruction must be followed.

INDICATION
This symbol highlights a process that the installer / operator must follow carefully.

WARNING!
This symbol refers to the operations andinstructions which must be precisely followed in order to avoid damage or destruction of the device.

DANGER!
This symbol refers to the operations and instructions which must beprecisely followed in order to avoid danger to people.

TRANSPORT AND STORAGE
The valves should not undergo impacts nor falls that could affect the structural strength of the pressurized parts.
The valves must be stored in areas with temperatures from 0° e 40°C, and should not be exposed to U.V. radiation.

WARNING
It is important to avoid rapid closure of valves to eliminate the possibility of water hammer causing damage to the pipeline. For this purpose it is recommended to install manual gearbox, available on request.

DECLARATION OF CONFORMITY
Available at the following link: https://www.aliaxis.it/website/aliaxis-it/DOWNLOAD/CERTIFICATI-FIP/PED_2014-68-UE/Declaration_PED_FIP.pdf

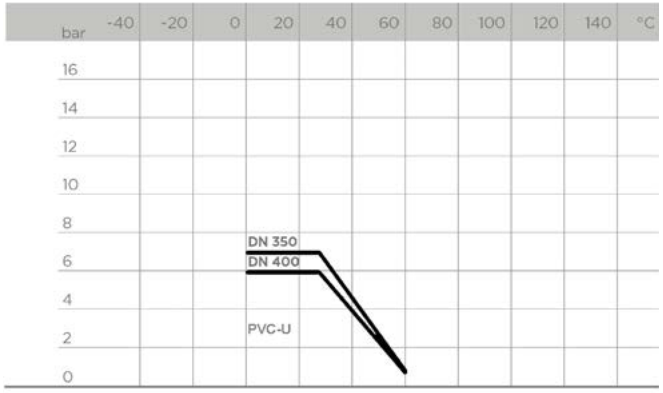
TECHNICAL DATA

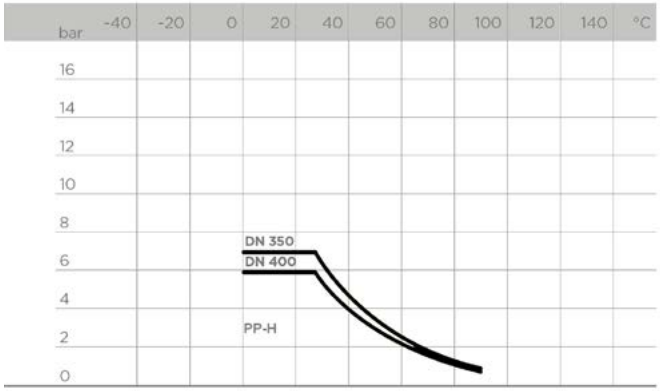
MATERIAL INFORMATION
FIP valves are rated for a working pressure at 20° C, listed on fig.1. For service temperature above 20° C working pressure should be reduced according to the curve shown in fig. 2. FIP is also providing on its web-site (www.aliaxis.it) a guide to chemical resi stance of thermoplastics and elastomers; the guide describes the fields of application for FIP valves (body and gaskets) in the conveyance of chemicals.

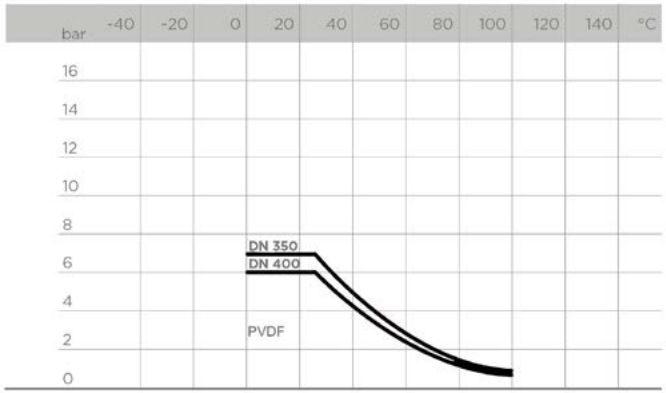
1 MAXIMUM WORKING PRESSURE AT 20° C

Size	mm	D355 DN 350	D400 DN 400
PVC-U	bar	7	6
PP-H	bar	7	6
PVDF	bar	7	6

2 PRESSURE/TEMPERATURE RATING







3 WORKING TEMPERATURE (°C)

	T min. (°C)	T max. (°C)
PVC-U	0	60
PP-H	0	90
PVDF	0	100

4 FLOW COEFFICIENT kv100

kv100 is the volume in liter, of water at 20°C that will flow per minute through the valve with a pressure drop Δp = 1 bar across the valve. The kv100 values shown in the table are calculated with the valve completely open.

D	d355	d400
DN	DN350	DN400
Kv100 l/min	94100	124900

Pos	Components	Material	n°
1	Body	PP-GR	1
2	Washer	Stainless steel	1
3	Upper bush	PPH	1
4	Bush O-ring	EPDM or FKM	6
5	Lower bush	PPH	1
6	Washer seal press	Acciaio inox	2
7	Primary liner	EPDM or FKM	1
8	Anti-friction ring	PTFE	2
9	O-Ring	EPDM o FKM	2
10	Disc	PVC, PP, PVDF	1
11	Washer	Stainless steel	1
12	Washer	Stainless steel	1
13	Protection cap	PE	1
14	Schraube	Stainless steel	1
16	Shaft	Stainless steel AISI 316	1
17	O-Ring	EPDM or FKM	2
18	Seeger ring	Stainless steel	1
20	Gearbox	Al / steel	1
21	Elastic pin	Stainless steel	2
22	Washer	Stainless steel	1
23	Position indicaor	ABS	1

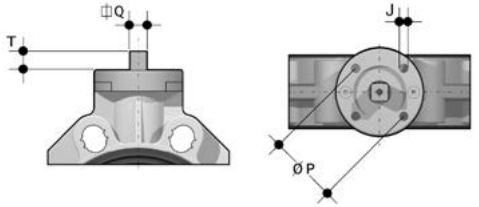
5 MAX TORQUE AT MAXIMUM WORKING PRESSURE

Size	mm mm	D355 DN 350	D400 DN 400
	Nm	480	625

6 ACTUATION

The valve can be supplied with actuators on request. Standard pneumatic, electric actuators or gearboxes can easily be installed on directly on integrally moulded mounting pad, drilled according to ISO 5211, F05 , F07 and F12 F14.

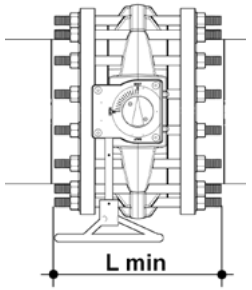
d	DN	J	P		T	Q
355	**350**	14/18	125/140	F12/14	29	27
400	**400**	14/18	125/140	F12/14	29	27



7 DIMENSIONS OF THE BOLTS TO BE USED IN INSTALLATION

Torque required for watertight joints (1,5 x PN at 20° C) (new or lubricated bolts).

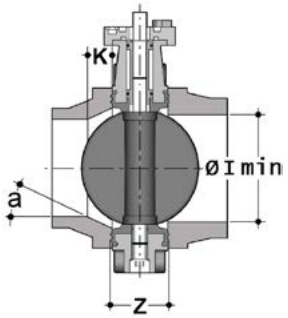
d	DN	L min	*Nm
355	350	M20x360	75
400	400	M24x240	75



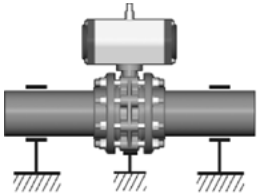
CONNECTION TO THE SYSTEM

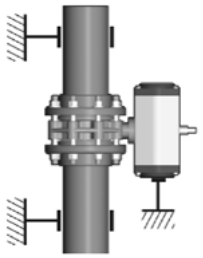
A Before installing the valve it is suggested to check that stub internal diameter (I min) allows the complete disc opening. For installation it is advisable to use FP stubs (Tab. A), or verify the valve-stub-flange combination and chamfer according to the K - a dimensions, where necessary.

Valve	Pipe			SDR 17,6		SDR 11		SDR 33	
d	d	I min.	Z	K	a	K	a		
355	**350**	324	129	45	25°	55	25°	17	30°
400	**400**	362	179	55	25°	80	25°	25	35°

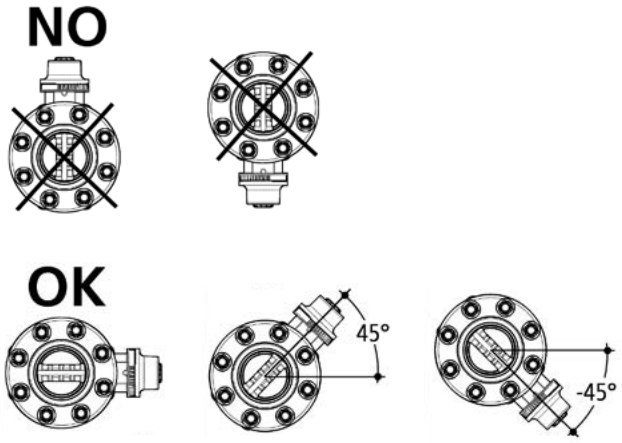


B Actuated valves should be properly installed and supported



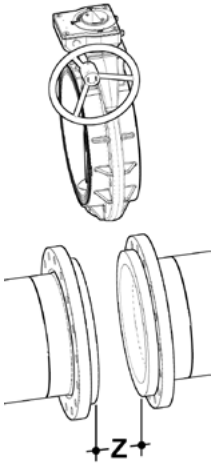


C **IF BEING USED WITH LIQUIDS WHERE SUSPENDED SOLIDS ARE PRESENT, OR THE RISK OF SCALING MAY OCCUR**



⚠ **TORQUE REQUIRED**
Install: 1-2-3
Dismantle: 3-2-1

1



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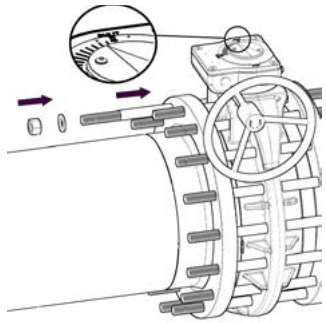

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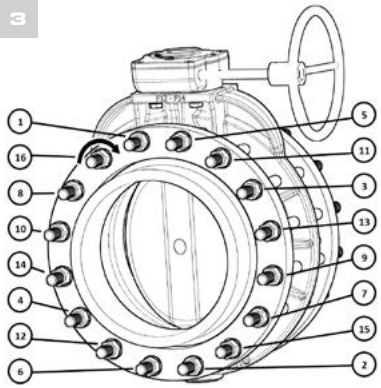
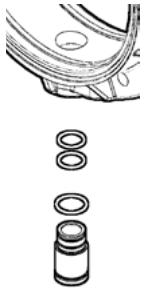


ASSEMBLY

Assembly: 4-15
Disassembly: 15-4
Lubricate the primary liner

4



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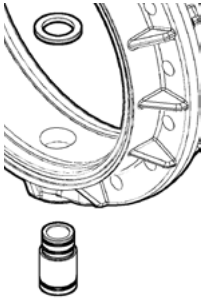

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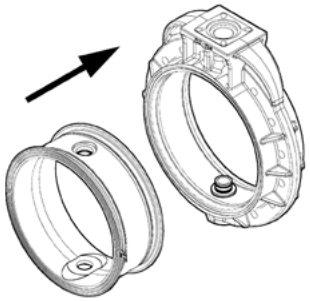

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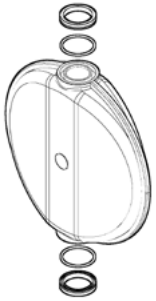

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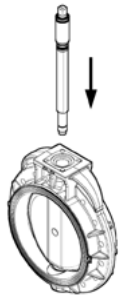
10

11

12



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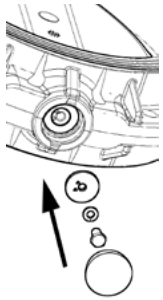

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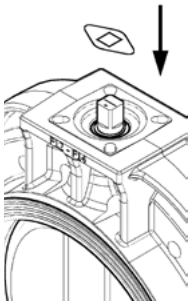

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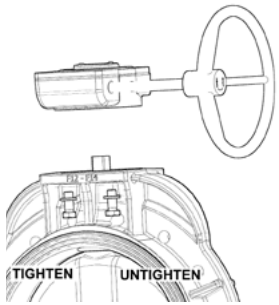

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WARNING!
This symbol refers to the work and instructions which must be precisely performed in order to avoid damage or destruction of the device.

WARNING
It is important to avoid rapid closure of valves to eliminate the possibility of water hammer causing damage to the pipeline.

TRANSPORT AND STORAGE
The box should not suffer impacts and falls that could compromise the structural resistance of its parts.
The box must be stored in a place with a temperature between -10° and 50°C, and must not be exposed to U.V. rays.

DECLARATION OF CONFORMITY
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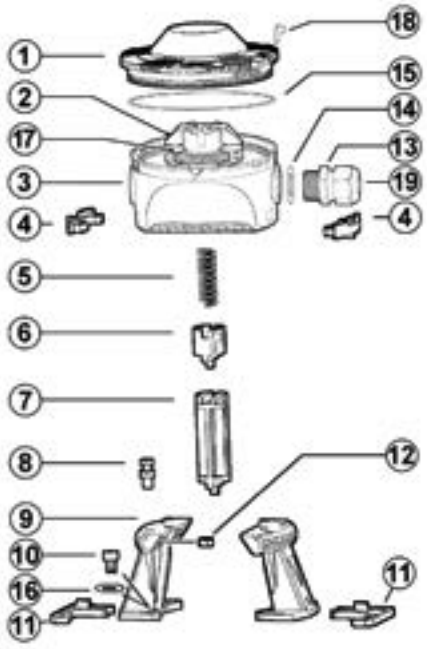
LSQT - LIMIT SWITCH BOX QUARTER TURN

WARNINGS

READ THESE INSTRUCTIONS BEFORE INSTALLING THE BOX
Read and follow the safety instructions in this manual to avoid injury, death and significant property damages.

HAZARDOUS VOLTAGE
Disconnect the power supply before working on the equipment

WARNING! DO NOT REMOVE THE COVER WHEN THE EQUIPMENT IS LIVE
Do not exceed the switch limitations of use. Exceeding limits may cause equipment damages. The level of protection depends on the cable gland and wiring method used.
Limit switch box for use on quarter turn valves (90° rotation).
Follow the procedure below before using the LSQT.



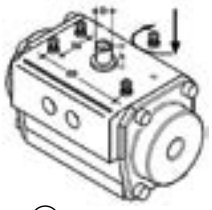
Pos.	Components	n°
1	Cover (Polycarbonate)	1
2	Cams (POM black)	2
3	Body (PP GF30% Black)	1
4	Fixation clips (ABS Black)	2
5	Spring (Stainless Steel)	1
6	Modular key (PA66 GF30% black)	1
7	Key estension (PA66 GF30% black)	1
8	Fixation pins (Stainless Steel)	4
9	Brackets (PA66 GF30% black)	2
10	M5 Screw (Stainless Steel)	4
11	130x30 extensions (PA66 GF30% black)	2
12	M5 Bolt (Stainless Steel)	4
13	Cable gland (PA6)	1
14	Gland O-ring (EPDM)	1
15	Cover O-ring (EPDM)	1
16	M5 Washer (Stainless Steel)	4
17	Arrows (POM yellow)	3
18	Security lock (ABS black)	1
19	Union nut (PA)	1

The material of the component and the quantity supplied are indicated between brackets

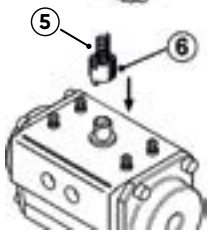
DIRECT INSTALLATION

Namur pattern 80x30, h: 20-30 mm, D ≤ 18 mm
VDI/VDE3845 compliant

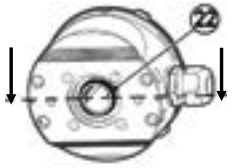
1 Firmly screw in the four lock pins to end stop **(8)**



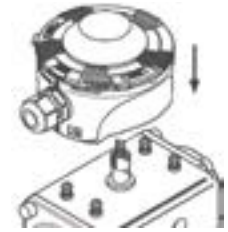
2 Position the module **(6)** and the spring **(5)** on the actuator rod



3 Align pinion **(22)** to module **(6)** on the actuator



4a Mount the box **(3)** on the actuator



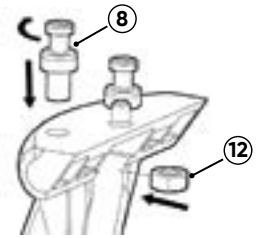
4b Make sure it hits end stop

5 Secure the box hooking the clips **(4)** on the lock pins until you hear a "click" that indicates correct hook up

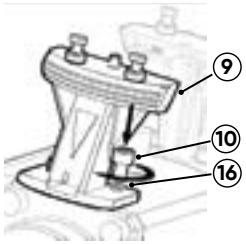
INSTALLATION WITH BRACKET

Namur pattern 80x30, h: 20-30 mm, D > 18 mm
VDI/VDE3845 compliant

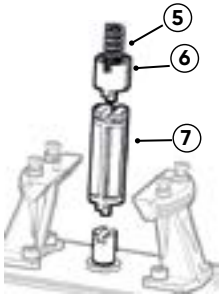
1 Insert the four nuts **(12)** in the relevant bracket seats, firm screw in the four lock pins to end stop **(8)**.



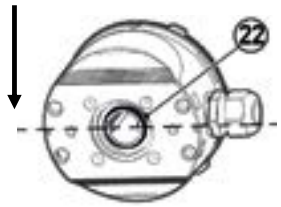
2 Secure the two brackets **(9)** over the actuator using the four screws **(10)** and washers **(16)**



3 Position the module **(6)** and the spring **(5)** plus extension **(7)** on the actuator rod



4 Align pinion **(22)** to module **(6)** on the actuator



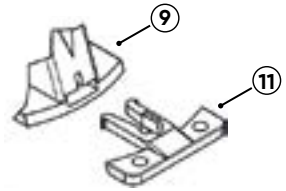
5 Mount the box on the brackets making sure it hits end stop

6 Secure the box hooking the clips on the lock pins **(4)** until you hear a "click" that indicates correct hook up

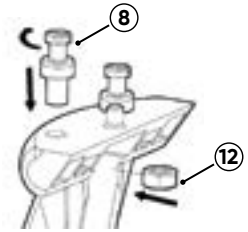
INSTALLATION WITH BRACKET

Namur pattern 130x30
VDI/VDE3845 compliant

1 Insert the extensions **(11)** on the brackets **(9)**

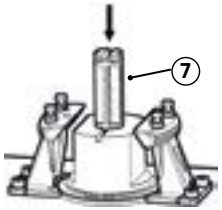


2 Insert the four nuts **(12)** in the relevant bracket seats, firm screw in the four lock pins to end stop **(8)**

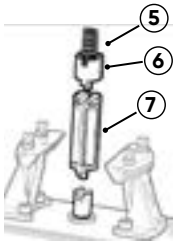


3 Secure the two brackets **(9)** over the actuator using the four screws **(10)** and washers **(16)**

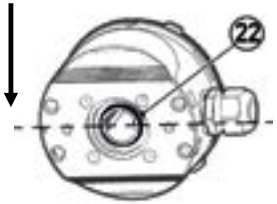
4a Rod height 50 mm. Only place the extension **(7)** on the actuator rod



4b Rod height ≤ 30mm. Position the module **(6)** and the spring **(5)** plus extension **(7)** on the actuator rod

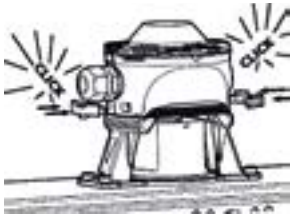


5 Align pinion **(22)** to module **(6)** on the actuator



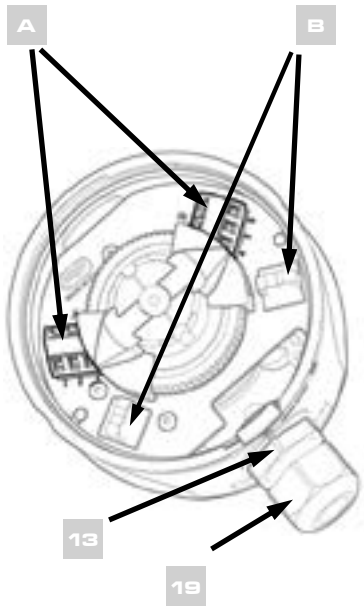
6 Mount the box on the brackets making sure it hits end stop

7 Secure the box hooking the clips on the lock **(4)** pins until you hear a "click" that indicates correct hook up



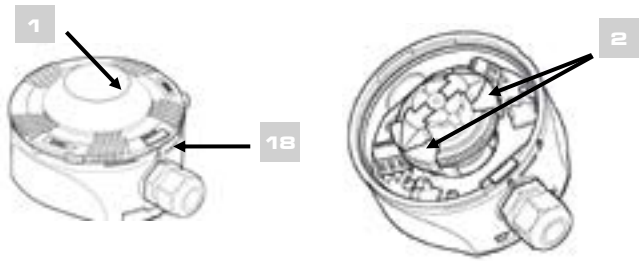
⚠ WIRING- HAZARDOUS VOLTAGE

Disconnect the power supply before working on the equipment.
Check correct cable gland torque **(13)**.
Remove the Union nut **(19)** from the cable gland **(13)**.
Thread the Union nut **(19)** on the cable and thread the wires through the cable gland **(13)**.
Connect the wires to the terminals **(A)** following the wiring diagram.
See diagram on the label.
Tighten the terminal screws **(A)** using a screwdriver.
Gather the wires in the two clips **(B)**.
Firmly tighten the Union nut **(19)**.
Reassemble the cover 111 turning it clockwise to end stop
Lower the safety lock **(18)**.



MICRO SWITCH CALIBRATION AND INDICATOR ALIGNMENT

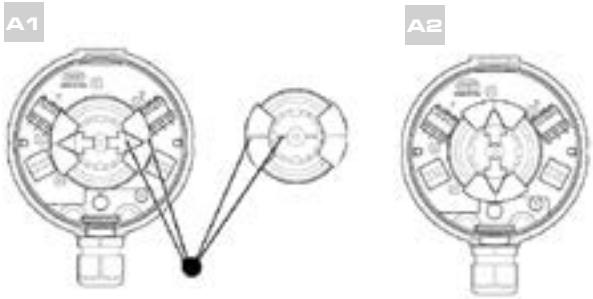
Lift the safety lock **(18)** and turn the cover **(1)** counter-clockwise and then remove it.
If necessary, align as follows: **A, B, C.**



A 2 WAY NORMALLY CLOSED (COUNTER-CLOCKWISE OPENING)

A1) Normally closed position, align cams, pinions, indicators, switch **"A"** engaged.

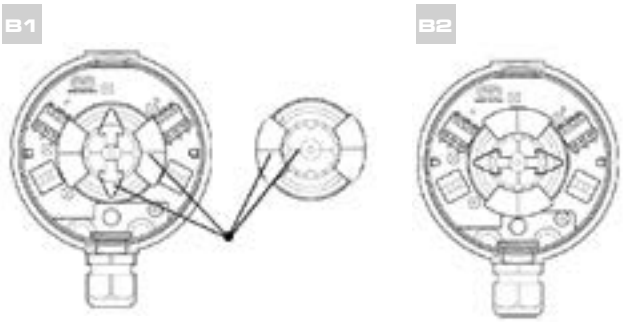
A2) Powered position, valve open, switch **"B"** engaged.



B 2 WAY NORMALLY OPEN (COUNTER-CLOCKWISE CLOSING)

B1) Normally open position, align cams and pinions, indicators 90° from cams, switch **"A"** engaged.

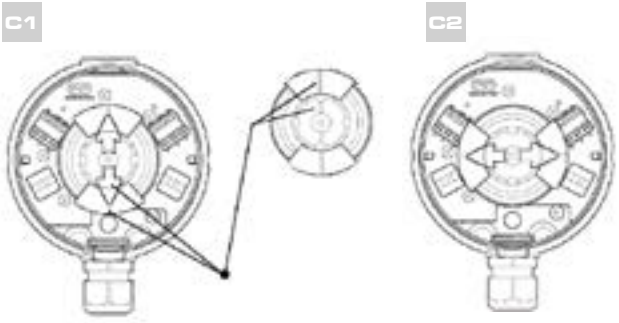
B2) Powered position, valve closed, switch **"B"** engaged.



C 2 WAY NORMALLY OPEN (CLOCKWISE CLOSING)

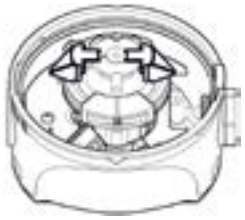
C1) Normally open position, align cams, pinions, indicators, switch **"B"** engaged.

C2) Powered position, valve closed, switch **"A"** engaged.

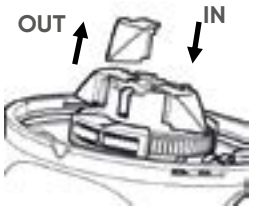


CONFIGURING POSITION INDICATORS FOR 2-WAY OR 3-WAY VALVES

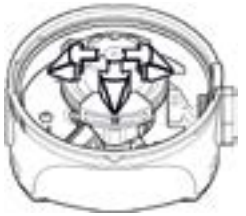
2 WAYS



CHANGE



3 WAYS (T-type)

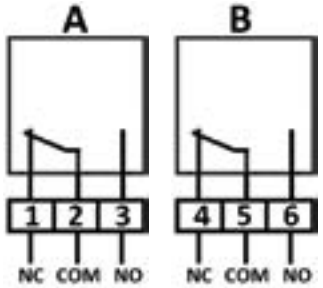


2 WAYS (L-type)

LSQTMEC - Mechanical limit switch box

Technical specifications	
Construction	Limit switch box with two electromechanical switches and modular optical position indicator
Switch type	SPDT, OMRON D3V-16-1C5
Contacts rate	0,3A (250 VDC) - 0,6A (125 VDC) 2,5A (24 VDC) - 10A (250 VAC)
Protection rate	IP67 / DIN EN 60529
Temperature range	-10° / +50°C
Cable inlet	1 cable-glande black M20x1.5 / 6-12 mm

Electric wiring LSQTMEC



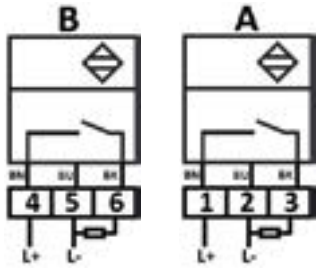
Electric wiring

Dimensions

LSQTPNP - Inductive PNP limit switch box

Technical specifications	
Construction	Limit switch box with two inductive PNP switches and optical position indicator
Switch type	Inductive PNP 3 wires, P+F NBN4-V3-E2
Voltage	10-30 V DC
Frequency	0-500 Hz
Operating Current	0-100mA
No-load supply current	≤15mA
Protection rate	IP68 / DIN IEN 60529
Temperature range	-10° / +50°C
Cable inlet	1 cable-glande black M20x1.5 / 6-12 mm

Electric wiring LSQTPNP



Electric wiring

Dimensions

WEEE

Waste electrical and electronic equipment.

This product falls under the field of application of Directive 2012/19/EU concerning electric and electronic equipment waste management (WEEE).

The equipment must not be discarded with domestic waste since made up of various materials that can be recycled at suitable centres. Apply to your town authorities as to the location of disposal sites that can receive the product for disposal and subsequent correct recycling.

Please also remember that the distributor is required to freely dispose of old products when an equivalent product is purchased.

The product is not potentially harmful to human health and the environment since it does not contain harmful substances as per Directive 2011/65/EU (RoHS) but can negatively impact the environment if littered.

Carefully read the instructions before using the equipment for the first time. Please do not use the product in any way other than its intended use since this could cause electrical shock.

The barred bin on the label indicates product compliance with electric and electronic equipment waste regulations. Littering the environment with this equipment or incorrect disposal are punishable by law.

INTRODUCTION
Ce manuel d'instructions doit être lu avant l'installation et / ou la mise enservice afin d'éviter des dommages matériels ou la mise en danger des personnes.

SYMBOLES
Les illustrations suivantes sont utilisées dans ce manuel comme symboles et notifications d'avertissement.

INDICATION
Ce symbole indique une indication que l'installateur ou l'exploitant doit suivre attentivement.

ATTENTION !
Ce symbole fait référence à des tâches et instructions qui oivent être réalisées et suivies précisément afin d'éviter des dommages ou la destruction du produit.

DANGER !
Ce symbole fait référence à des tâches et instructions qui doivent être réalisées et suivies précisément pour éviter toute mise en danger des personnes.

TRANSPORT ET STOCKAGE
Les vannes ne doivent pas être soumises à des chocs ou une chute qui pourraient affecter la résistance structurelle des parties sous pression. Les vannes doivent être entreposées à des températures entre 0 ° et 40 ° C, et ne doivent pas être exposées au rayonnement UV.

WARNING
Toujours eviter des fermetures trop rapides des vannes. A ce but il est conseillé de prévoir l'installation d'un réducteur de manoeuvre manuel.

DÉCLARATION DE CONFORMITÉ
Disponible au lien suivant : https://www.aliaxis.it/website/aliaxis-it/DOWNLOAD/CERTIFICATI-FIP/PED_2014-68-UE/Declaration_PED_FIP.pdf

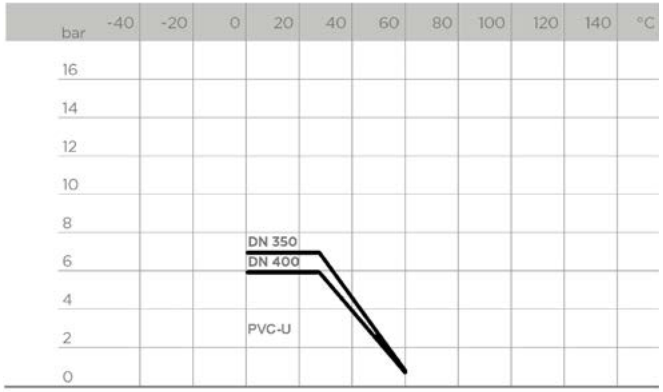
DONNÉES TECNIQUES

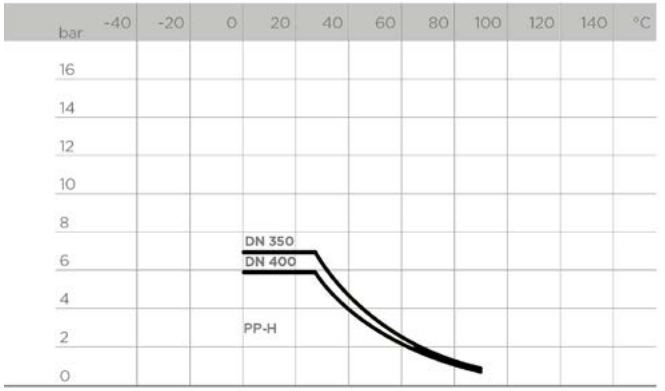
CARACTÉRISTIQUES DU MATERIEL
Les pressions maximales de service des vannes FIP, pour le transport de l'eau à 20 °C, sont indiquées dans la fig.**1**. Pour des températures supérieures à 20 °C, on doit réduire les pressions maximales de service selon la courbe de la fig. **2**. Sur son site web (www.aliaxis.it) FIP a prévu un guide de la résistance chimique des matières thermoplastiques et élastomères. Celui-ci indique le domaines d'utilisation des robinets FIP (corps et garnitures) dans le transport des produits chimiques.

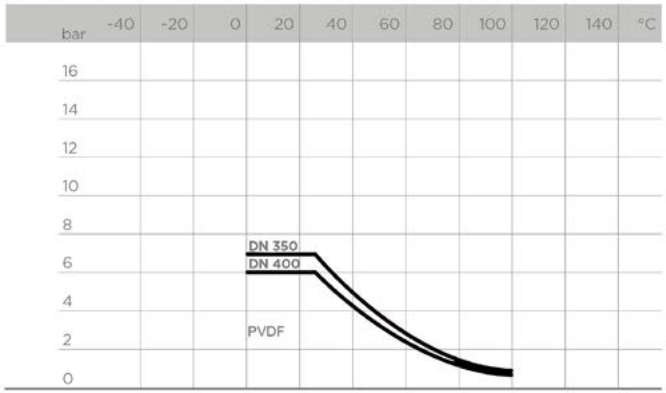
1 PRESSION MAXIMALE DE SERVICE À 20° C

Size	mm	D355 DN 350	D400 DN 400
PVC-U	bar	7	6
PP-H	bar	7	6
PVDF	bar	7	6

2 VARIATION DE LA PRESSION EN FONCTION DE LA TEMPÉRATURE







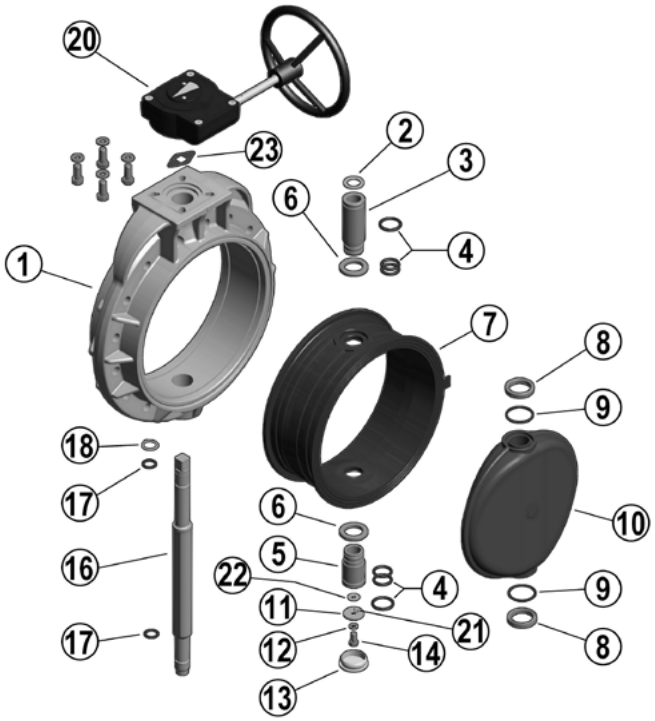
3 TEMPÉRATURE DE SERVICE (°C)

	T min. (°C)	T max. (°C)
PVC-U	0	60
PP-H	0	90
PVDF	0	100

4 COEFFICIENT DE DÉBIT kv100

kv100 est le nombre de litres par minute d'eau, à une température de 20° C, qui s'écoule dans une vanne de régulation avec une pression différentielle de 1 bar, à un débit donné. Les valeurs kv100 indiquées sur la table ont été évaluées avec la vanne entièrement ouvert.

D	d355	d400
DN	DN350	DN400
Kv100 l/min	94100	124900



Pos	Composants	Materiaux	n°
1	Corps	PP-GR	1
2	Rondelle	Acier inox	1
3	Douille superieur	PPH	1
4	O-ring douille	EPDM ou FKM	6
5	Douille inférieur	PPH	1
6	Bague anti-friction	Acier inox	2
7	Manchette	EPDM o FKM	1
8	Bague anti-friction	PTFE	2
9	O-ring tige	EPDM ou FKM	2
10	Papillon	PVC, PP, PVDF	1
11	Rondelle	Acier inox	1
12	Rondelle	Acier inox	1
13	Plug de protection	PE	1
14	Vis	Acier inox	1
16	Tige	Acier inox AISI 316	1
17	O-Ring	EPDM ou FKM	2
18	Bague Seeger	Acier inox	1
20	Réducteur à volant	Al / Acciaio	1
21	Goupille élastique	Acier inox	2
22	Rondelle	Acier inox	1
23	Indicat. de poistion	ABS	1

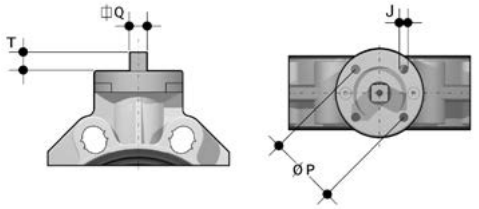
5 COUPLE DE MANOEUVRE À LA PRESSION MAXIMALE DE SERVICE

Size	mm mm	D355 DN 350	D400 DN 400
	Nm	480	625

6 ACTIONNEMENT

Sur demande, la vanne peut être fournie avec des servomoteurs. Il est possible de monter directement des actionneurs pneumatiques et/ou électriques et des réducteurs à volant pour alléger la manoeuvre, grace au perçage de la platine suivant la norme ISO F12 F14.

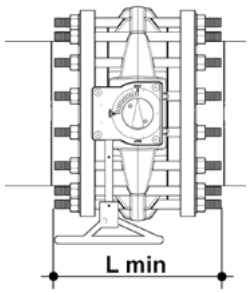
d	DN	J	P		T	Q
355	**350**	14/18	125/140	F12/14	29	27
400	**400**	14/18	125/140	F12/14	29	27



7 DIMENSIONS DES BOULONS À UTILISER POUR L'INSTALLATION

* Couple requis pour joints étanches (1,5 x PN À 20° C) (boulons neufs ou lubrifiés).

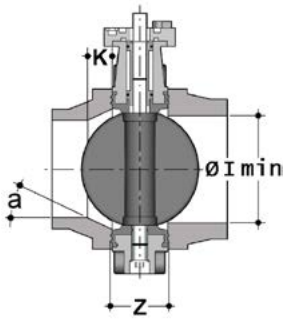
d	DN	L min	*Nm
355	350	M20x360	75
400	400	M24x240	75



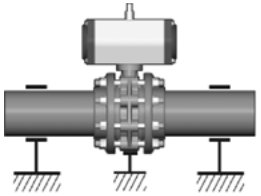
MONTAGE SUR LA CANALISATION

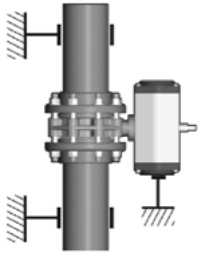
A Avant d'effectuer l'installation de la vanne il est conseillé de vérifier que diametre interieur du collet permette l'ouverture du papillon. Pour installation il est toujours conseillé de utilizer Coller FIP (Tab.A), ou verifier les accouplements vanne-collet-bride et les cùtes de chamfreinage K - a si nécessaire selon le SDR.

Valve	Pipe			SDR 17,6		SDR 11		SDR 33	
d	d	l min.	Z	K	a	K	a		
355	**350**	324	129	45	25°	55	25°	17	30°
400	**400**	362	179	55	25°	80	25°	25	35°

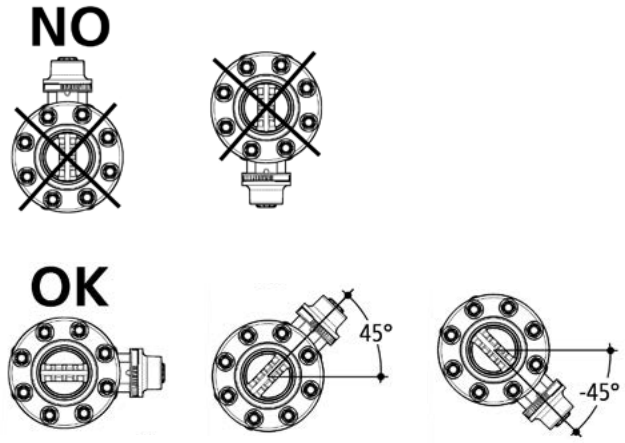


B Pour les vannes avec actionneurs en grands diamèters prevoirs un supportage de la vanne sur la canalisation.





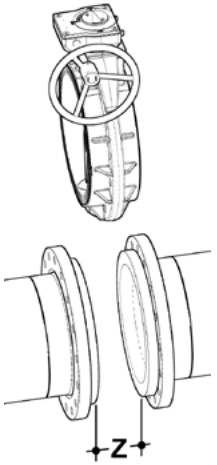
C DANS LE CAS DE FLUIDES CHARGÉS OU DE RISQUE DE SEDIMENTATION



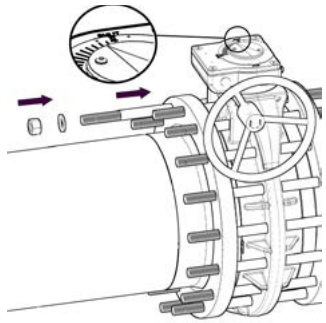
COUPLE DE SERRAGE

Montage: 1-2-3
Demontage: 3-2-1

1



2



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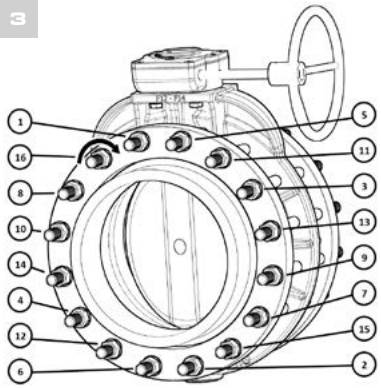
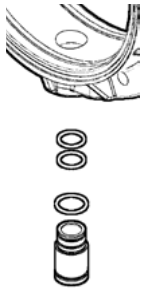


MONTAGE

Montage: 4-15
Demontage: 15-4
Lubrifier le joint

4



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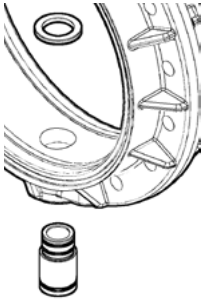

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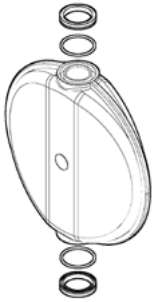

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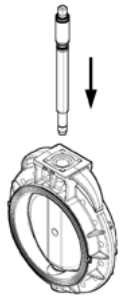

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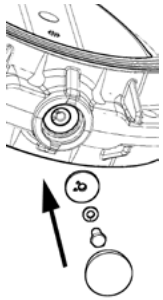

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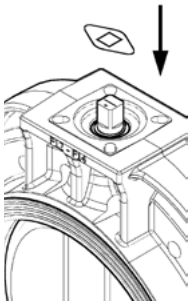

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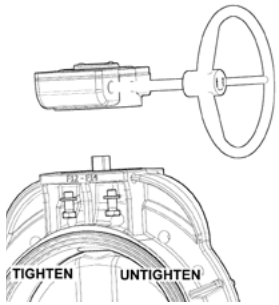


INTRODUCTION
Ce manuel d'instructions doit être lu avant l'installation et / ou la mise en service afin d'éviter des dommages matériels ou la mise en danger des personnes.

SYMBOLES
Les illustrations suivantes sont utilisées dans ce manuel comme symboles et notifications d'avertissement.

INDICATION
Ce symbole indique une indication que l'installateur ou l'exploitant doit suivre attentivement.

ATTENTION !
Ce symbole fait référence à des tâches et instructions qui oivent être réalisées et suivies précisément a fin d'éviter des dommages ou la destruction du produit.

DANGER !
Ce symbole fait référence à des tâches et instructions qui doivent êtreréalisées et suivies précisément pour éviter toute mise en danger des personnes.

TRANSPORT ET ENTREPOSAGE
La bo1te ne doit subir ni heurts ni chutes susceptibles de nuire a la resistance structurelle de ses composants. La bo1te doit être stockée dans des lieux presentant une température comprise entre-10° et 50°C, et elle ne doit pas être soumise aux rayons

DÉCLARATION DE CONFORMITÉ
Disponible au lien suivant : https://www.aliaxis.it/website/aliaxis-it/DOWNLOAD/CERTIFICATI-FIP/PED_2014-68-UE/Declaration_PED_FIP.pdf

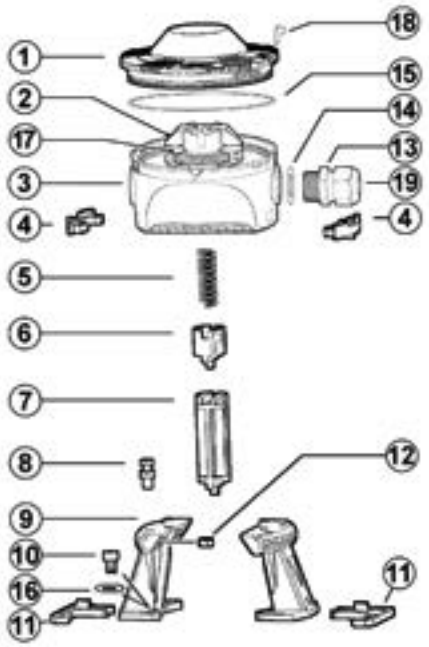
LSQT - BOÎTE DE FIN DE COURSE ¼ DE TOUR

AVERTISSEMENTS
LIRE LES PRESENTES INSTRUCTIONS AVANT D'INSTALLER LA BOÎTE
Pour éviter les blessures, la mort ou des dommages matériels importants, lire et respecter toutes les instructions de sécurité contenues dans ce manuel.

TENSION DANGEREUSE
Débrancher l'alimentation électrique avant de travailler sur l'équipement.

ATTENTION ! NE PAS ENLEVER LE COUVERCLE QUAND L'APPAREIL EST SOUS TENSION
Ne pas depasser pas les limites d'utilisation des interrupteurs. Le dépassement des limites peut endommager l'appareil. Le degré de protection dépend du presse-étoupe et de la méthode de câblage utilisee. Bo1tier de fin de course pour vannes à quart de tour (rotation 90°). Suivre la procédure suivante avant de mettre la LSQT en service.

ÉTALONNAGE DES MICRORUPTEURS ET ALIGNEMENT DES INDICATEURS.



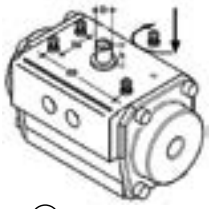
Rep.	Composants	nbre
1	Couvercle (Polycarbonate)	1
2	Cames (POM noir)	2
3	Corps (PP GF30% noir)	1
4	Clip de fixation (ABS noir)	2
5	Ressort (Acier INOX)	1
6	Module de raccordement (PA66 GF30% noir)	1
7	Rallonge module (PA66 GF30% noir)	1
8	Broches de fixation (Acier INOX)	4
9	Bride (PA66 GF30% noir)	2
10	Vis M5 (Acier INOX)	4
11	Rallonge de bride 130x30 (PA66 GF30% noir)	2
12	Écrou M5 (Acier INOX)	4
13	Presse-étoupe (PA6)	1
14	Joint torique presse-étoupe (EPDM)	1
15	Joint torique couvercle (EPDM)	1
16	Rondelle M5 (Acier INOX)	4
17	Indicateurs (POM jaune)	3
18	Bloc de sécurité (ABS noir)	1
19	Écrou union (PA)	1

Le matériau du composant est indiqué entre parenthèses.

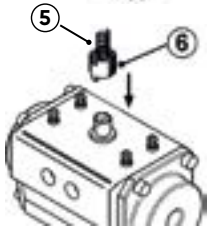
INSTALLATION DIRECTE

Namur pattern 80x30, h: 20-30 mm, D ≤ 18 mm
Conforme aux dispositions VDI/VDE3845

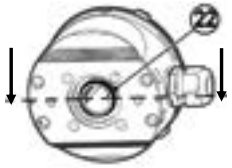
1 Visser les quatre goupilles de verrouillage en les serrant jusqu'à la butée **(8)**



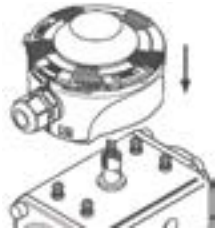
2 Poser le module sur la tige **(6)** Le printemps **(5)** de l'actionneur



3 Aligner le pignon **(22)** avec le module **(6)** situé sur l'actionneur



4a Monter le boîtier **(3)** sur l'actionneur



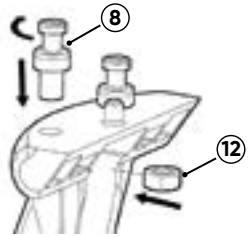
4b Veiller à le placer en fin de butée

5 Fixer la boîte en engageant les clips **(4)** sur les goupilles de verrouillage jusqu'à ce que l'on entende un clic qui indique que l'engagement est correct

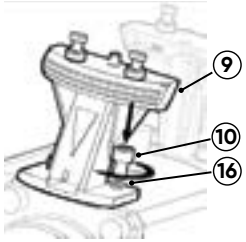
INSTALLATION AVEC BRIDE

Namur pattern 80x30, h: 20-30 mm, D > 18 mm
Conforme aux dispositions VDI/VDE3845

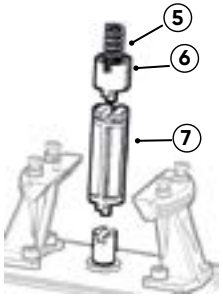
1 Insèrer les quatre écrous **(12)** dans les logements respectifs de la bride, serrer les quatre goupilles de verrouillage en les serrant jusqu'en butée **(8)**



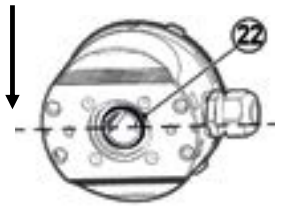
2 Fixez les deux supports **(9)** sur l'actionneur à l'aide des quatre vis **(10)** et rondelles **(16)**



3 Placer le module **(6)** Le printemps **(5)** et sa rallonge **(7)** sur la tige de l'actionneur



4 Alignér le pignon **(22)** avec le module **(6)** situé sur l'actionneur



5 Monter la bôite sur les brides en veillant à ce qu'il soit en butée

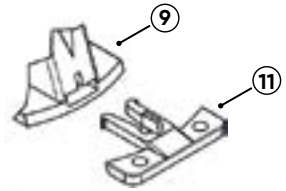
6 Fixer la bôite en engageant les clips sur les goupilles de verrouillage **(4)** jusqu'à ce que l'on entende un clic qui indique que l'engagement est correct

INSTALLATION AVEC BRIDE

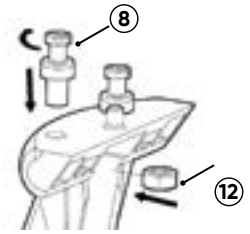
Namur pattern 130x30

Conforme aux dispositions VDI/VDE3845

1 Insérer les extensions **(11)** sur les brides **(9)**

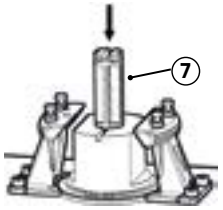


2 Insérer les quatre écrous **(12)** dans les logements respectifs de la bride, serrer les quatre goupilles de verrouillage **(8)** en les serrant jusqu'en butée

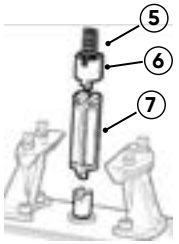


3 Fixer les deux brides **(9)** supports au-dessus de l'actionneur à l'aide des quatre vis **(10)** et des quatre rondelles **(16)**

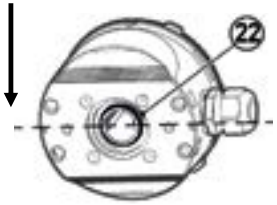
4a Hauteur de la tige: 50 mm. Poser le module et sa rallonge **(7)** sur la tige de l'actionneur



4b Hauteur de la tige ≤ 30 mm. Placer le module **(6)** Le printemps **(5)** et sa rallonge sur la tige de l'actionneur

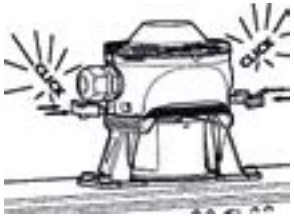


5 Aligner le pignon **(22)** avec le module **(6)** situé sur l'actionneur



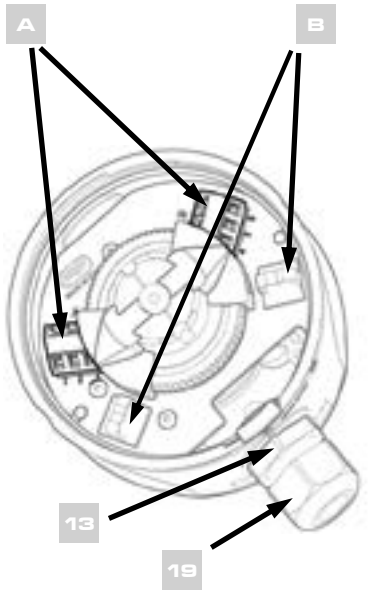
6 Monter la bôite sur les brides en veillant à ce qu'il soit en butée

7 Fixer la bôite en engageant les clips sur les goupilles de verrouillage **(4)** jusqu'à ce que l'on entende un clic qui indique que l'engagement est correct



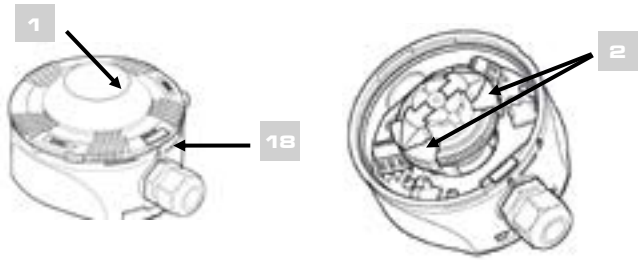
⚠ CÂBLAGE ELECTRIQUE TENSION DANGEREUSE

Débrancher l'alimentation électrique avant de travailler sur l'équipement.
Vérifier que le presse-étoupe **(13)** est bien serré.
Retirer le écrou union **(19)** du presse-étoupe **(13)**.
Monter le écrou union (19) sur le câble électrique, puis faire passer les fils dans le presse-étoupe **(13)**.
Raccorder les fils aux bornes **(A)** selon le schéma de raccordement, voir schema sur l'étiquette.
Serrer les vis des bornes **(A)** à l'aide d'un tournevis.
Rassembler les fils a l'intérieur des deux clips **(B)**.
Serrer le écrou union **(19)**.
Remonter le couvercle **(1)** en le tournant dans le sens des aiguilles d'une montre jusqu'à ce qu'il atteigne la butée.
Abaisser le verrou de sécurité **(18)**.



ÉTALONNAGE DES MICRORUPTEURS ET ALIGNEMENT DES INDICATEURS.

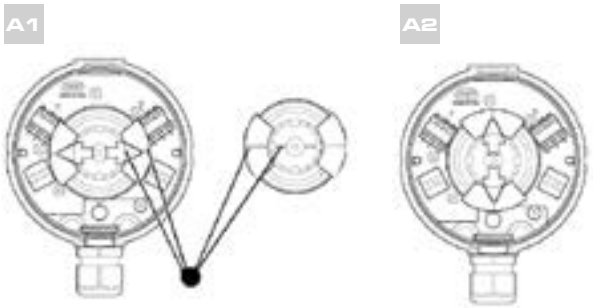
Soulever le bloc de sécurité **(18)** et tourner le couvercle **(1)** dans le sens inverse à celui des aiguilles d'une montre, puis le retirer. Si nécessaire, aligner selon les schémas: **A, B, C**.



A 2 VOIES NORMALEMENT FERMÉES (OUVERTURE SENS INVERSE DES AIGUILLES D'UNE MONTRE)

A1) Position normalement fermée, aligner les cames, le pignon et les indicateurs, interrupteur **"A"** enclenché.

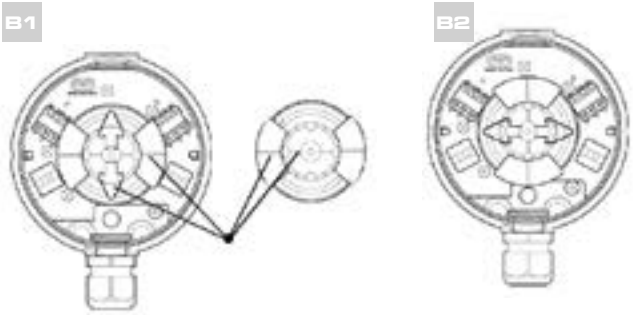
A2) Position sous tension, vanne ouverte, interrupteur **"B"** enclenché.



B 2 VOIES NORMALEMENT OUVERTES (FERMETURE SENS INVERSE DES AIGUILLES D'UNE MONTRE)

B1) Position normalement ouverte, aligner les cames et le pignon, indicateurs a 90° par rapport aux cames, interrupteur **"A"** enclenché.

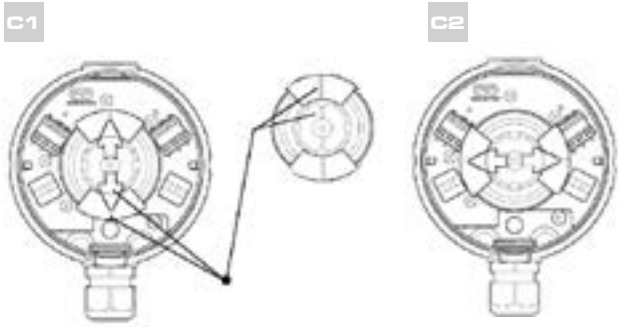
B2) Position sous tension, vanne fermée, interrupteur **"B"** enclenché.



C 2 VOIES NORMALEMENT OUVERTES (FERMETURE SENS DES AIGUILLES D'UNE MONTRE)

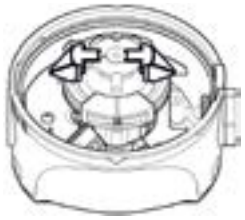
C1) Position normalement ouverte, aligner les cames, le pignon et les indicateurs, interrupteur **"B"** enclenché.

C2) Position sous tension, vanne fermee, interrupteur **"A"**, enclenché.

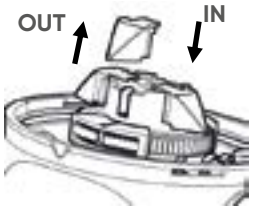


CONFIGURATION DES INDICATEURS DE POSITION POUR LES VANNES À 2 OU 3 VOIES

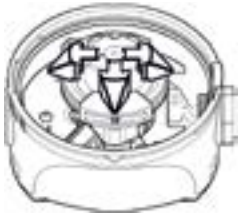
2 WAYS



CHANGE



3 WAYS (T-type)



2 WAYS (L-type)

LSQTMEC - Boîtier électromécanique de fin de course

Spécifications techniques	
Fabrication	Boîte avec deux microrupteurs de fin de course inductifs et un indicateur optique de position modulaire
Type d'interrupteurs	SPDT, OMRON D3V-16-1C5
Portée des contacts	0,3A (250 VDC) - 0,6A (125 VDC) 2,5A (24 VDC) - 10A (250 VAC)
Degré de protection	IP67 / DIN EN 60529
Température d'utilisation	-10° / +50°C
Entrée des câbles	1 presse-étoupe M20x1.5 / 6-12mm

Schéma électrique LSQTMEC

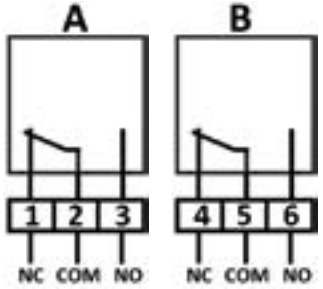


Schéma électrique

Dimensions

LSQTPNP- Boîtier de fins de course inductifs PNP

Spécifications techniques	
Fabrication	Boîte avec deux microrupteurs de fin de course inductifs et un indicateur optique de position modulaire
Type d'interrupteurs	Inductif PNP 3 fils, P+F NBN4-V3-E2
Tension	10-30 V DC
Fréquence de commutation	0-500 Hz
Courant de fonctionnement	0-100mA
Courant à vide	≤15mA
Degré de protection	IP68 / DIN IEN 60529
Température d'utilisation	-10° / +50°C
Entrée des câbles	1 presse-étoupe M20x1.5 / 6-12mm

Schéma électrique LSQTPNP

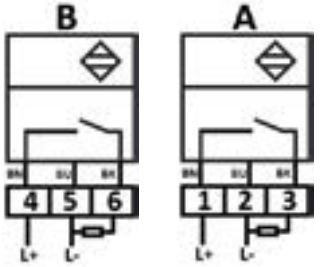


Schéma électrique

Dimensions

DEEE

Déchets d'équipements électriques et électroniques.

Ce produit entre dans le domaine d'application de la directive 2012/19/UE relative à la gestion des déchets d'équipements électriques et électroniques (DEEE).

L'appareil ne doit pas être jeté avec les ordures ménagères, car il est composé de différents matériaux qui peuvent être recyclés dans des installations appropriées. Se renseigner auprès des autorités municipales sur l'emplacement des plates-formes écologiques destinées à recevoir le produit en vue de son élimination et de son recyclage ultérieur dans les règles de l'art.

Il est également rappelé que lors de l'achat d'un équipement équivalent, le distributeur est tenu de reprendre le produit à éliminer gratuitement.

Le produit n'est pas potentiellement dangereux pour la santé humaine et l'environnement, car il ne contient pas de substances nocives conformément à la directive 2011/65/UE (RoHS), mais s'il est abandonné dans l'environnement, il aura un impact négatif sur l'écosystème.

Lire attentivement les instructions avant d'utiliser l'appareil pour la première fois. Le produit ne doit en aucun cas être utilisé à d'autres fins que celles pour lesquelles il a été conçu, car il existe un risque d'électrocution en cas d'utilisation incorrecte.

Le symbole de la poubelle barrée sur l'étiquette indique que ce produit est conforme à la réglementation sur les déchets d'équipements électriques et électroniques. L'abandon d'équipements dans l'environnement ou leur mise au rebut sans autorisation est puni par la loi.

EINLEITUNG
Um Schäden an der Armatur und einer mögliche Gefährdung von Personen zu vermeiden, ist die Bedienungsanleitung vor der Montage oder der Inbetriebnahme sorgfältig zu lesen.

GEFAHRENSHINWEISE
Mit den nachstehenden Gefahrenhinweisen wird auf Gefährdungen, Risiken und sicherheitsrelevante Informationen durch eine hervorgehobene Darstellung besondershingewiesen

HINWEIS
Hinweise, die mit diesem Gefahrensymbol gekennzeichnet sind, werden auf eine besondere Sorgfaltspflicht für den Installateur und Betreiber hin.

ACHTUNG!
Hinweise die mit diesem Gefahrensymbol gekennzeichnet sind, beschreiben Verhaltensmassnahmen deren Nichtbeachtung zur Beschädigung oder vollständigen Zerstörung der Armatur führen können.

GEFAHR!
Hinweise, die mit diesem Gefahrensymbol gekennzeichnet sind, beschreiben Verhaltensmassnahmen deren Nichtbeachtung zu schweren Verletzungen oder Lebensgefahr für Anwender oder Dritte führen können.

LAGERUNG UND TRANSPORT
Die Armaturen sind gegen äussere Gewält (wie Stoss, Schlag, Vibration) zu schützen. Die Armaturen sind vor der Einwirkung materialschädingender UV-Strahlung geschützt zu lagern. Während der Lagerung sind die maximal zulässigen Temperaturgrenzen von 0 °C bis 40°C einzuhalten.

WARNUNG
Ein schnelles Schließen von Armaturen ist zu vermeiden, um Druckstöße die durch Wasserschläge entstehen, zu verhindern. Rohrsysteme können hierdurch zerstört werden. Aus diesem Grunde sollten Schneckenradgetriebe installiert werden, die auf Anfrage lieferbar sind.

KONFORMITÄTSERKLÄRUNG
Verfügbar unter folgendem Link:https://www.aliaxis.it/website/aliaxis-it/DOWNLOAD/CERTIFICATI-FIP/PED_2014-68-UE/Declaration_PED_FIP.pdf

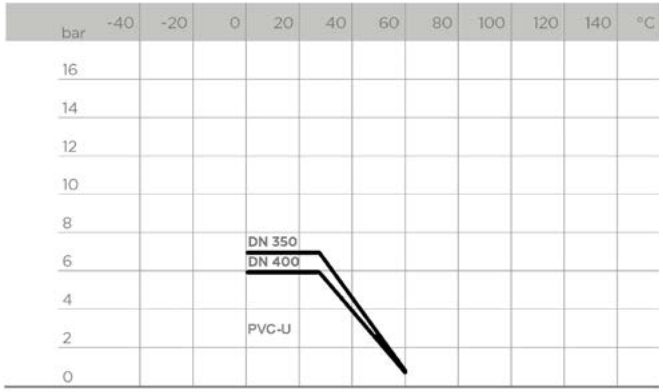
BETRIEBSDATEN

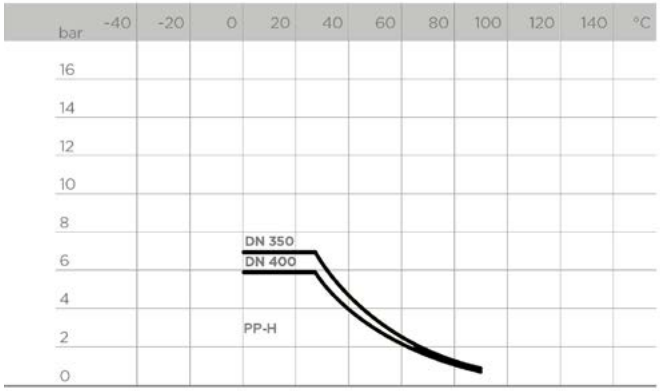
MATERIALEIGENSCHAFTEN
Der maximale Druck für FIP-Armaturen ist in Abb. **1** für Wasser bei 20° C zu entnehmen.
Für Betriebstemperaturen über 20° C muss der zulässige Betriebsdruck gemäss Abb. **2** reduziert werden. FIP gibt auf seiner Internetseite (www.aliaxis.it) Hinweise zur chemischen Beständigkeit thermoplastischer und elastomerer Materialien gegenüber verschiedenartigstes Chemikalien.

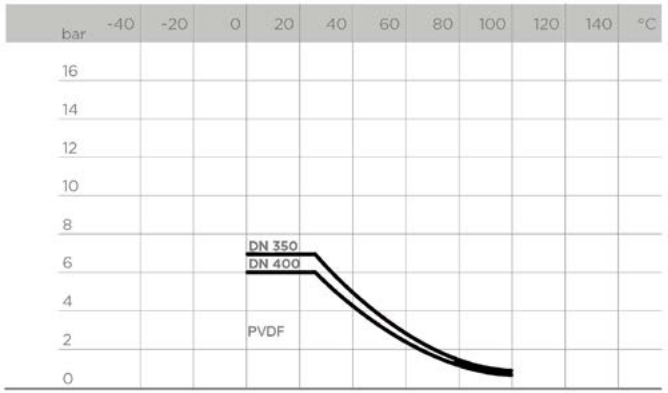
1 BETRIEBSTEMPERATUR (°C)

Size	mm	D355 DN 350	D400 DN 400
PVC-U	bar	7	6
PP-H	bar	7	6
PVDF	bar	7	6

2 BETRIEBSDRUCK IN ABHÄNGIGKEIT VON DER TEMPERATUR







3 BETRIEBSTEMPERATUR (°C)

	T min. (°C)	T max. (°C)
PVC-U	0	60
PP-H	0	90
PVDF	0	100

4 KV100 - WERT

Der kv100 - Wert nennt den Durchsatz in l/min für Wasser bei 20 °C und einem Δp von 1 bar bei völlig geöffnetem Ventil.

D	d355	d400
DN	DN350	DN400
Kv100 l/min	94100	124900

Pos	Benennung	Werkstoff	n°
1	Gehäuse	PP-GR	1
2	Scheibe	Edelstahl	1
3	Buchse Oberteil	PPH	1
4	O-ring für Buchse	EPDM oder FKM	6
5	Buchse Unterteil	PPH	1
6	Gleitring	Edelstahl	2
7	Primärdichtung	EPDM o FKM	1
8	Gleitring	PTFE	2
9	Spindeldichtung (O-Ring)	EPDM oder FKM	2
10	Klappenscheibe	PVC, PP, PVDF	1
11	Scheibe	Edelstahl	1
12	Scheibe	Edelstahl	1
13	Schutzkappe	PE	1
14	Schraube	Edelstahl	1
16	Welle	Acier inox AISI 316	1
17	O-Ring	EPDM oder FKM	2
18	Seeger-Ring	Edelstahl	1
20	Schneckenradgetriebe	Al / Stahl	1
21	Federstift	Edelstahl	2
22	Scheibe	Edelstahl	1
23	Stellungsanzeige	ABS	1

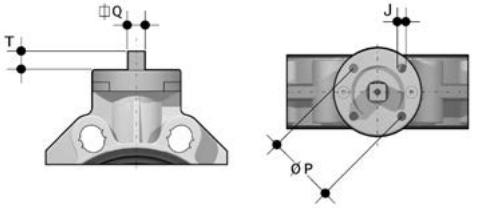
5 BETÄTIGUNGSDREHMOMENT BEI HÖCHSTEM,ZULÄSSIGEM BETRIEBSDRUCK

Size	mm mm	D355 DN 350	D400 DN 400
	Nm	480	625

6 ANTRIEBE

Auf Anfrage können die Armaturen komplett mit Antrieben geliefert werden. Der Aufbau von standardisierten Schneckenradgetrieben, Elektro - oder Pneumatik - Antrieben erfolgt direkt auf den integrierten Adapterflansch, der nach ISO 5211, F05, F07 und F12 F14 gebohrt ist.

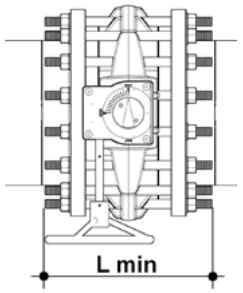
d	DN	J	P		T	Q
355	**350**	14/18	125/140	F12/14	29	27
400	**400**	14/18	125/140	F12/14	29	27



7 SCHRAUBENABMESSUNGEN ZUM EINBAU ZWISCHEN FLANSCHEN

* Anzugsdrehmoment für Druckproben (1,5 x PN bei 20° C), bei neuen oder gefetteten SCHRAUBEN.

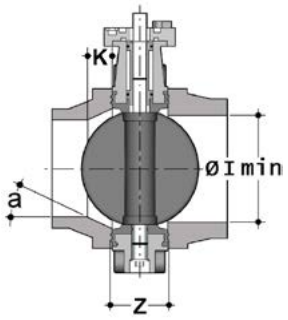
d	DN	L min	*Nm
355	350	M20x360	75
400	400	M24x240	75



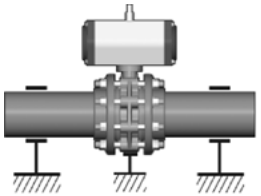
MONTAGEANLEITUNG

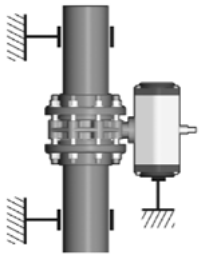
A Vor Montage der Absperrklappen ist zu überprüfen, ob die Bundbuchsen ein vollständiges Öffnen der Klappenscheibe ermöglichen (l min-Maß beachten). Bei der Montage, ist es immer am besten FIP Formteile zu benutzen (Tab. A), oder in PE bzw. PPH Rohrleitungen für wenige Abmessungen müssen sowohl bei langen als auch kurzen Vorschweißbunde diese mechanisch bearbeitet werden (Winkel a und k-Maß beachten).

Valve	Pipe			SDR 17,6		SDR 11		SDR 33	
d	d	l min.	Z	K	a	K	a		
355	**350**	324	129	45	25°	55	25°	17	30°
400	**400**	362	179	55	25°	80	25°	25	35°

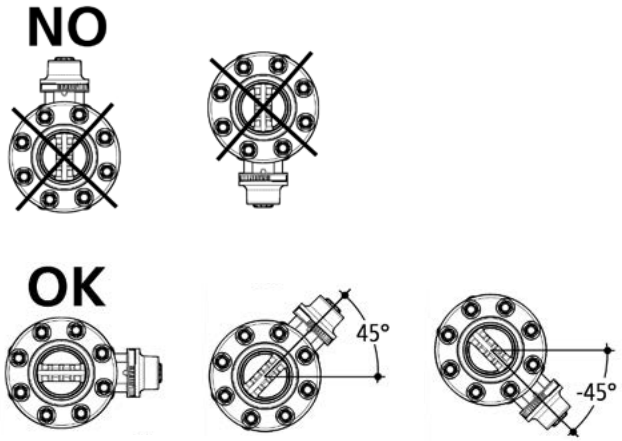


B Angetriebene Klappen sollten, wenn nicht anders angegeben, mit dem Antrieb senkrecht über der Klappe eingebaut werden.





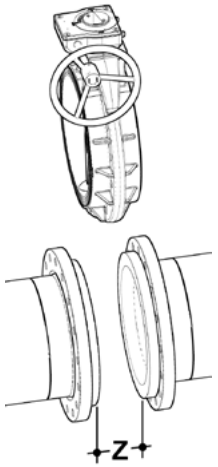
C **IM FALLE VON VERSCHMUTZTEN ODER ABLAGERUNGSFÄHIGEN FLÜSSIGKEITEN**



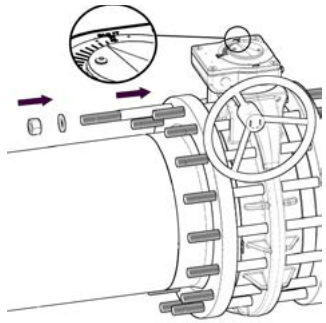
⚠ **ANZUGSDREHMOMENT FÜR DRUCKPROBENTAB**

Montage: 1-2-3
Demontage: 3-2-1

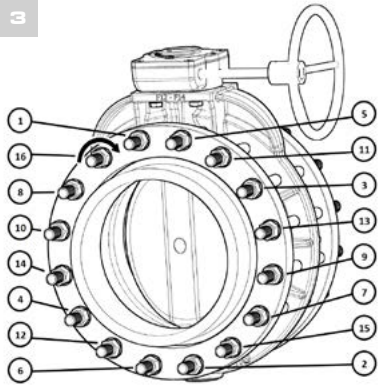
1



2



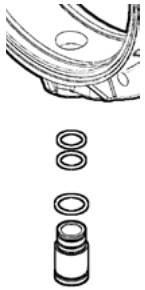
3



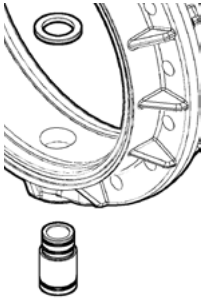
MONTAGE

Montage: 4-15
Demontage: 15-4
Lubrifier le joint

4

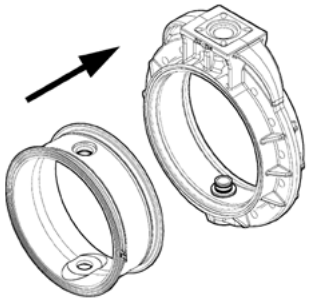


5

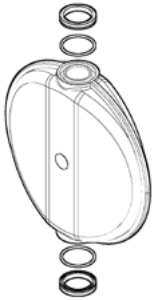


6

7



8

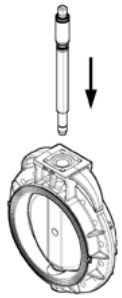


9

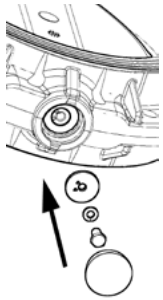
10

11

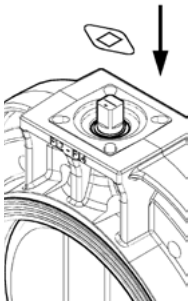
12



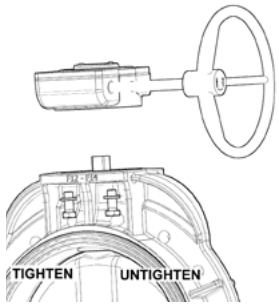
13



14



15



EINLEITUNG
Um Schaden an der Armatur und einer mögliche Gefährdung van Personen zu vermeiden, ist die Bedienungsanleitung vor der Montage oder der Inbetriebnahme sorgfältig zu lesen.

GEFAHRENSHINWEISE
Mit den nachstehenden Gefahrenhinweisen wird auf Gefährdungen, Risiken und sicherheitsrelevante Informationen durch eine hervorgehobene Darstellung besonders hingewiesen.

HINWEIS
Hinweise, die mit diesem Gefahrensymbol gekennzeichnet sind, werden auf eine besondere Sorgfaltspflicht für den Installateur und Betreiber hin.

ACHTUNG!
Hinweise die mit diesem Gefahrensymbo gekennzeichnet sind, beschreiben Verhaltensmassnahmen deren Nichtbeachtung zur Beschädigung oder vollständigen Zerstörung der Armatur führen können.

GEFAHR!
Hinweise, die mit diesem Gefahrensymbol gekennzeichnet sind, beschreiben Verhaltensmassnahmen deren Nichtbeachtung zu schweren Verletzungen oder Lebensgefahr für Anwender oder Dritte führen können.

EINLEITUNG
Diese Anleitung muss vor der Installation und/oder Inbetriebnahme gelesen werden, um Sach- und Personenschäden zu vermeiden.

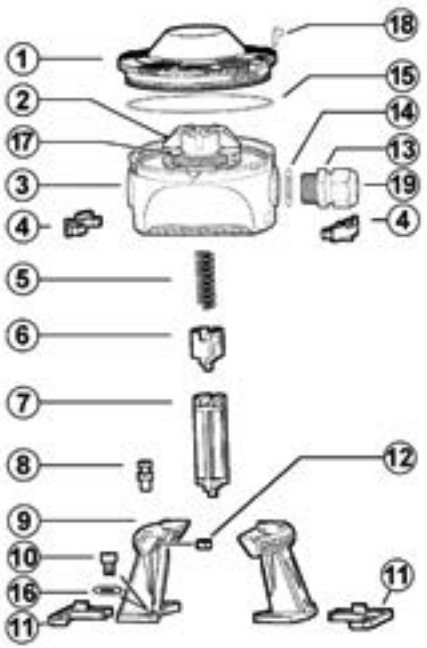
KONFORMITÄTSERKLÄRUNG
Verfügbar unter folgendem Link: hhttps://www.aliaxis.it/website/aliaxis-it/DOWNLOAD/CERTIFICATI-FIP/PED_2014-68-UE/Declaration_PED_FIP.pdf

LSQT - SCHALTSCHRANK ENDSCHALTER 1⁄4 DREHUNG

WARNUNGEN
LESEN SIE VOR DER INSTALLATION DES SCHALTSCHRANKS DIE VORLIEGENDEN HINWEISE DURCH
Um Verletzungen oder den Tod van Menschen oder schwere Sachschäden zu vermeiden, lesen und befolgen Sie bitte alle Sicherheitshinweise in dieser Anleitung.

GEFÄHRLICHE SPANNUNG
Trennen Sie die Stromversorgung, bevor Sie Arbeiten an den Geräten durchführen.

ACHTUNG!!! ABDECKUNG NICHT ABNEHMEN, WENN SPANNUNG AN DEM GERÄT ANLIEGT
Die Nutzungsgrenzwerte der Schalter dürfen nicht überschritten werden.
Durch Überschreiten der Grenzwerte kann das Gerät beschädigt werden. Der Schutzgrad hängt von der Kabelverschraubung und von der verwendeten Verkabelungsmethode ab.
Endschalter-Schaltschrank zur Verwendung auf Vierteldrehungsventilen (90°-Drehung).
Gehen Sie folgenderma8en vor, bevor Sie den Endschalter-Schaltschrank in Betrieb nehmen.



Pos.	Komponenten	Nr.
1	Deckel (Polycarbonat)	1
2	Nocken (POM schwarz)	2
3	Körper (PP GF30% schwarz)	1
4	Befestigungsclip (ABS schwarz)	2
5	Feder (Edelstahl)	1
6	Verbindungsmodul (PA66 GF30% schwarz)	1
7	Modulverlängerung (PA66 GF30% schwarz)	1
8	Befestigungsstifte (Edelstahl)	4
9	Klammer (PA66 GF30% schwarz)	2
10	Schraube M5 (Edelstahl)	4
11	Klammerverlängerung 130x30 (PA66 GF30% schwarz)	2
12	Mutter M5 (Edelstahl)	4
13	Kabelverschraubung (PA6)	1
14	O-Ring Kabelverschraubung (EPDM)	1
15	O-Ring-Abdeckung (EPDM)	1
16	Unterlegscheibe M5 (Edelstahl)	4
17	Anzeigen (POM gelb)	3
18	Sicherheitsblockierung (ABS schwarz)	1
19	Oberwurfmutter (PA))	1

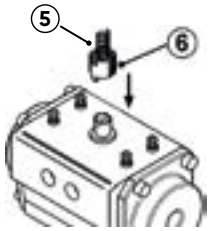
Das Material der jeweiligen Komponente ist in Klammern angegeben

DIREKTE INSTALLATION

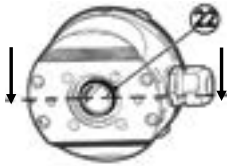
Namur Muster 80x30, h: 20-30 mm, D ≤ 18 mm
Entspricht den Bestimmungen VDI/YDE3845

1 Die vier Blockierzapfen festschrauben und kräftig bis zum Anschlag festziehen **(8)**.

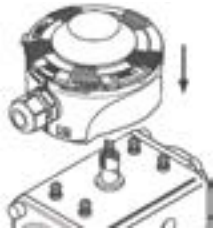
2 Das Modul auf dem **(6)** und Feder **(5)** Schatt des Schützes positionieren.



3 Ritzel **(22)** mit auf dem Schütz positionierten Modul **(6)** ausrichten.



4a Schaltschrank **(3)** auf Schütz montieren.



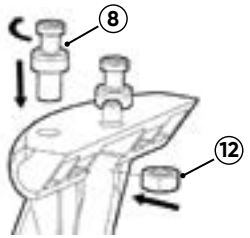
4b Sicherstellen, dass er bis zum Anschlag gebracht wurde.

5 Schaltschrank befestigen, dazu die Clips **(4)** auf den Blockierzapfen mit einem hörbaren . "Klick" einrasten lassen.

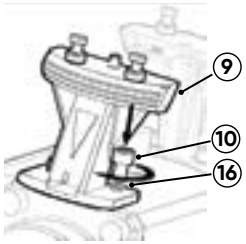
INSTALLATION MIT BOGEL

Namur Muster 80x30, h: 20-30 mm, D > 18 mm
Entspricht den Bestimmungen VDI/VDE3845

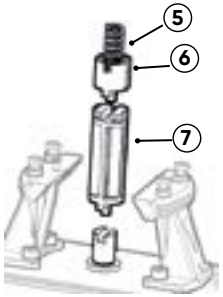
1 Die vier Muttern **(12)** in die entsprechenden Sitze des Bügels einführen, die vier Blockierzapfen festschrauben und kräftig bis zum Anschlag festziehen. (8)



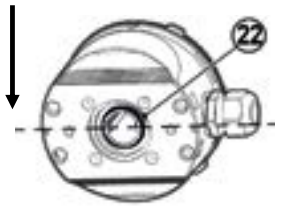
2 Die beiden Bügel **(9)** mit den vier Schrauben und den vier Unterlegscheiben **(10)** über dem Schütz befestigen **(16)**.



3 Das Modul samt Verlängerung **(6)** und Feder **(5)** auf dem Schaft **(7)** des Schützes positionieren.



4 Ritzel **(22)** mit auf dem Schütz positionierten Modul **(6)** ausrichten.



5 Schaltschrank über den Bügeln montieren, darauf achten, dass er bis zum Anschlag gebracht wird.

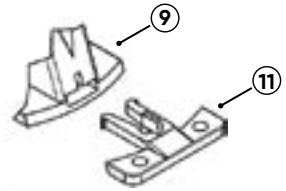
6 Schaltschrank befestigen, dazu die Clips auf den Blockierzapfen mit einem hörbaren "Klick" einrasten lassen.

INSTALLATION MIT BOGEL

Namur Muster 130x30

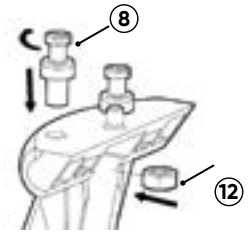
Entspricht den Bestimmungen VDI/VDE3845

1 Verlängerungen **(11)** auf die Bügel einführen **(9)**.



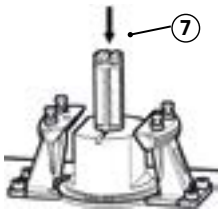
2 Verlängerungen **(12)** auf die Bügel einführen.

Die vier Muttern in die entsprechenden Sitze des Bügels einführen, die vier Blockierzapfen festschrauben und kräftig bis zum Anschlag festziehen **(8)**.

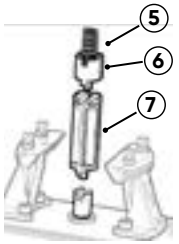


3 Die beiden Bügel mit den vier Schrauben und den vier Unterlegscheiben **(10)** über dem Schütz befestigen **(16)**

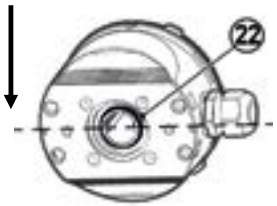
4a Höhe des Schafts 50 mm. Nur die Verlängerung auf dem Schaft **(7)** des Schützes positionieren.



4b Höhe des Schafts ≤ 30 mm. Das Modul **(6)** und Feder **(5)** samt Verlängerung auf dem Schaft des Schützes positionieren.

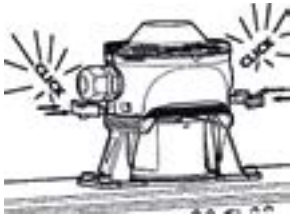


5 Ritzel **(22)** mit auf dem Schütz positionierten Modul **(6)** ausrichten.



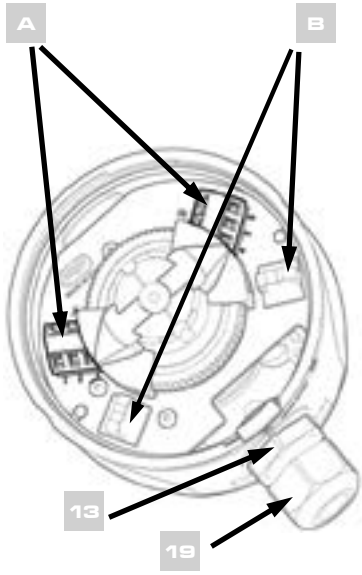
6 Schaltschrank über den Bügeln montieren, darauf achten, dass er bis zum Anschlag gebracht wird.

7 Schaltschrank befestigen, dazu die Clips auf den Blockierzapfen **(4)** mit einem hörbaren "Klick" einrasten lassen correct.



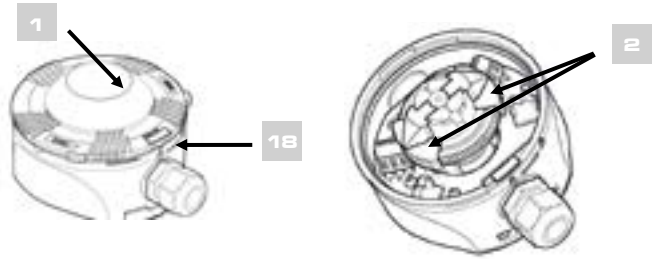
⚠ VERDRAHTUNG GEFÄHRLICHE SPANNUNG

Trennen Sie die Stromversorgung, bevor Sie Arbeiten an den Geräten durchführen.
Ordnungsgemäßen Festziehdrehmoment der Kabelverschraubung **(13)** prüen.
Überwurfmutter **(19)** von der Kabelverschraubung **(13)** abnehmen.
Die Überwurfmutter **(19)** auf das Stromkabel aufziehen, d.h.
Die Drähte durch die Kabelverschraubung **(13)** führen.
Die Drahte gemäß den Angaben im Schaltplan an den Klemmen **(A)** anschließen (siehe Etikett)
Die Schrauben der Klemm en **(A)** mit Schraubenzieher festziehen.
Die Drähte in den beiden Clips **(B)** aufnehmen.
Überwurfmutter **(19)** kräftig festziehen.
Deckel **(1)** wieder aufsetzen und im Uhrzeigersinn bis zum Anschlag drehen.
Sicherheitsblockierung **(18)** absenken.



EICH EN DER MIKROSCHALTER UND AUSRICHTUNG DER ANZEIGEN

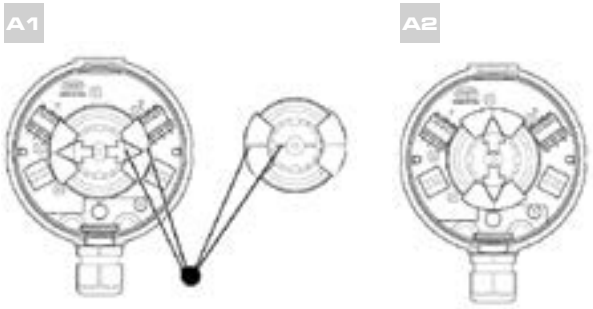
Sicherheitsblockierung **(18)** hochheben und Deckel **(1)** gegen den Uhrzeigersinn drehen und abnehmen. Erforderlichenfalls ausrichten gemäß Plänen: **A, B, C.**



A NORMAILERWEISE GESCHLOSSENES 2-WEGE-VENTIL (ZUM ÖFFNEN GEGEN DEN UHRZEIGERSINN DREHEN)

A1) Normalerweise geschlossene Position, Nocken, Ritzel, Anzeiger, gedrückter Schalter **"A"** ausrichten.

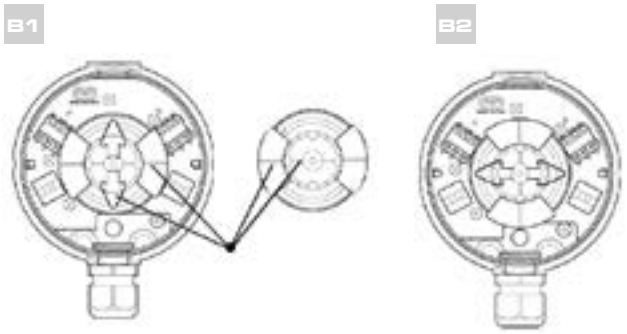
A2) Position unter Spannung, geöiffnetes Ventil, Schalter **"B"** gedrückt.



B NORMALERWEISE GEÖFFNETES 2-WEGE-VENTIL (ZUM SCHLIESSEN GEGEN DEN UHRZEIGERSINN DREHEN)

B1) Normalerweise geöiffnete Position, Nocken und Ritzel ausrichten, Anzeigen 90° zu den Nocken, Schalter **"A"** gedrückt.

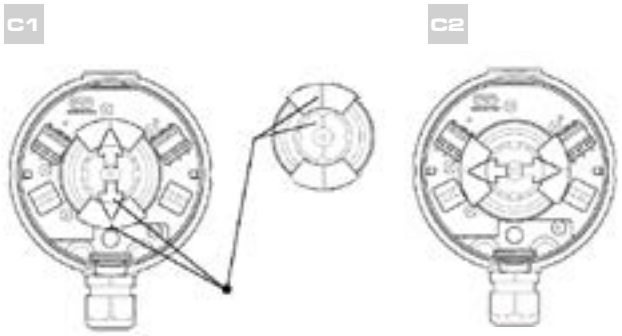
B2) Position unter Spannung, Ventil geschlossen, Schalter **"B"** gedrückt.



C NORMALERWEISE GEÖFFNETES 2-WEGE-VENTIL (ZUM SCHLIESSEN IM UHRZEIGERSINN DREHEN)

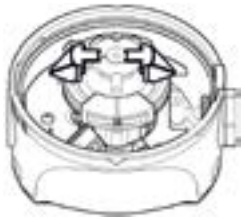
B1) Normalerweise geöffnete Position, Nocken, Ritzel und Anzeiger ausrichten, Schalter **"B"** gedrückt.

B2) Position unter Spannung, Ventil geschlossen, Schalter **"A"** gedrückt.

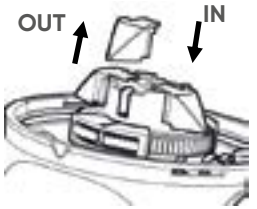


KONFIGURIEREN VON STELLUNGSANZEIGEN FÜR 2-WEGE- ODER 3-WEGE-VENTILE

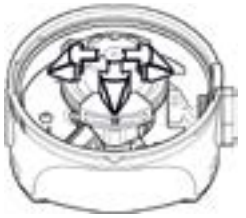
2 WAYS



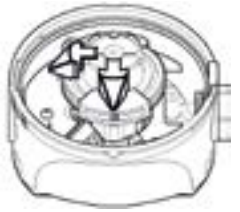
CHANGE



3 WAYS (T-type)



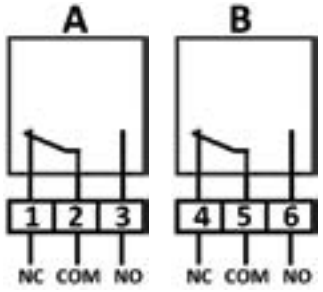
2 WAYS (L-type)



LSQTMEC - MECHANISCHE ENDSCHALTERBOX

Technische Daten	
Aufbau	Box mit zwei elektromechanischen Endschaltern und modularer optischer Positionsanzeige
Schaltertyp	SPDT, OMRON D3V-16-1C5
Schaltleistung	0,3A (250 VDC) - 0,6A (125 VDC) 2,5A (24 VDC) - 10A (250 VAC)
Schutzart	IP67 / DIN EN 60529
Verwendungstemperatur	-10° / +50°C
Kabeleingang	1 Kabelverschraubung M20x1,5/6-12mm

Schaltplan LSQTMEC



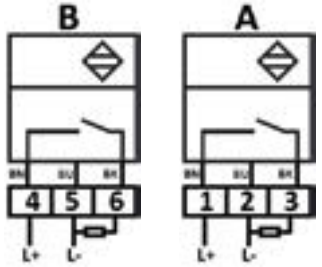
Schaltplan

Abmessungen

LSQTPNP - Induktive PNP-Endschalterbox

Technische Daten	
Aufbau	Box mit zwei induktiven PNP-Endschaltern und modularer optischer Positionsanzeige
Schaltertyp	Induktiver PNP 3 Drähte, P+F NBN4-V3-E2
Spannung	10-30 V DC
Schaltfrequenz	0-500 Hz
Betriebsstrom	0-100mA
Strom bei Nulllast	≤15mA
Schutzart	IP68 / DIN IEN 60529
Verwendungstemperatur	-10° / +50°C
Kabeleingang	1 Kabelverschraubung M20x1,5/6-12mm

Schaltplan LSQTPNP



Schaltplan

Abmessungen

EEAG

Elektro- und Elektronik-Altgeräte.

Dieses Produkt fällt in den Geltungsbereich der Richtlinie 2012/19/EU über die Entsorgung von Elektro- und Elektronik-Altgeräten (EEAG).

Das Gerät darf nicht mit dem Hausmüll entsorgt werden, da es aus verschiedenen Materialien besteht, die in entsprechenden Anlagen recycelt werden können. Erkundigen Sie sich bei der Stadtverwaltung nach dem Standort von Sammelstellen für die Annahme und das anschließende ordnungsgemäße Recycling des Produkts.

Es wird auch daran erinnert, dass der Händler beim Kauf gleichartiger Geräte verpflichtet ist, das zu entsorgende Produkt kostenlos zurückzunehmen.

Das Produkt ist für die menschliche Gesundheit und die Umwelt nicht potenziell gefährlich, da es keine schädlichen Stoffe gemäß der Richtlinie 2011/65/EU (RoHS) enthält. Wenn es jedoch in die Umwelt gelangt, hat es negative Auswirkungen auf das Ökosystem.

Lesen Sie sich die Anweisungen sorgfältig durch, bevor Sie das Gerät zum ersten Mal benutzen. Verwenden Sie das Produkt unter keinen Umständen für einen anderen als den vorgesehenen Zweck, da bei unsachgemäßer Verwendung die Gefahr eines Stromschlags besteht.

Das Symbol der durchgestrichenen Mülltonne auf dem Etikett zeigt an, dass dieses Produkt den Vorschriften für Elektro- und Elektronik-Altgeräte entspricht. Das Abstellen von Geräten in der Umwelt oder deren unbefugte Entsorgung ist strafbar.