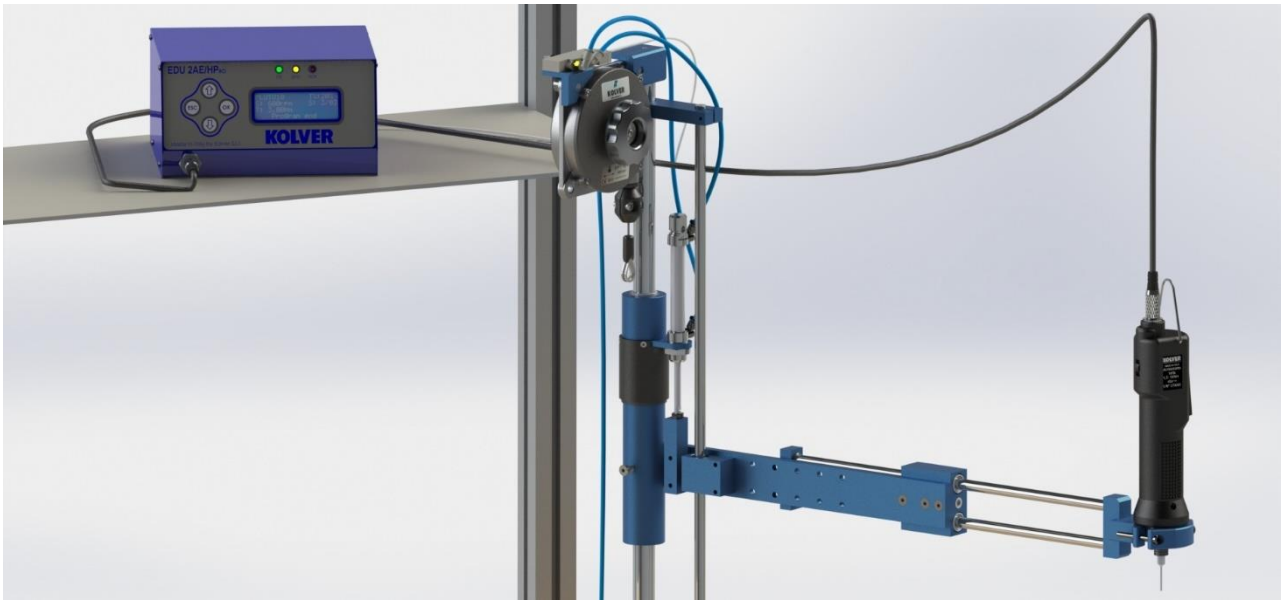
Folding and Linear Positioning Arms with Autoadvance Kit Manual



IDENTIFICATION DATA OF THE MANUFACTURER

KOLVER S.r.l.
VIA M. CORNER, 19/21
36016 THIENE (VI) ITALIA

IDENTIFICATION DATA OF THE PRODUCT

MODEL:	LINAR2	TLS1/LINAR2
CODE:	010682/A	010682/TLS1/A

Only Autoadvance kit to be installed on Kolver code 020099

TECHNICAL DATA OF THE PRODUCT

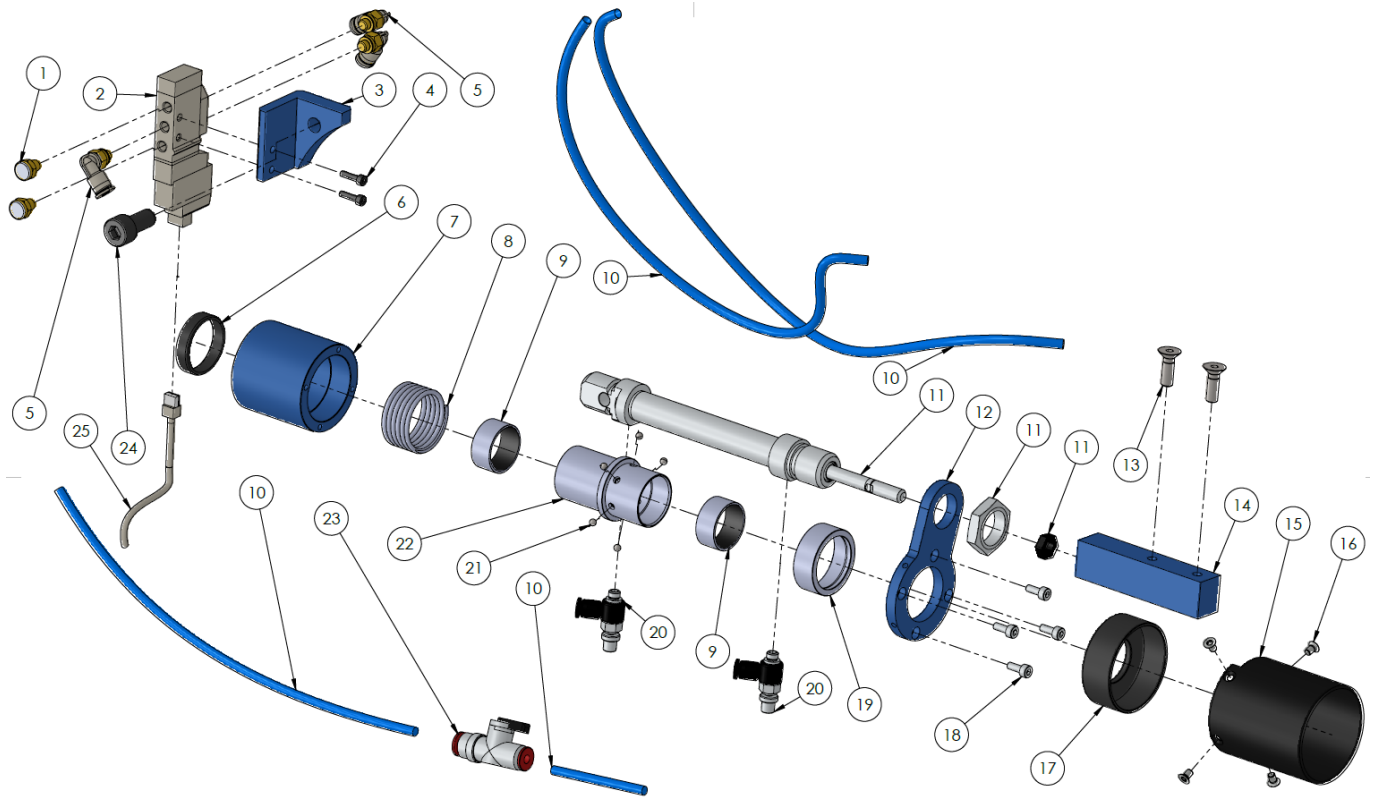
ELECTROVALVE TENSION: 24V DC 0,35W
ARM DIMENSIONS: 684 x 191.13 x 722,5h mm
ARM WEIGHT: 5,7 Kg
AUTOADVANCE KIT WEIGHT 0,4 Kg

Code	Model	Torque Max	Stroke mm		Piston stroke mm	Min distance between screws at the max arm extension
			Min	Max		
010682/A	LINAR2 with Autoadvance kit	50 Nm	184	665	0-50	
010682/TLS1/A	TLS1/LINAR2 with Autoadvance kit	50 Nm	184	665	0-50	6 mm

Autoadvance Kit

The Autoadvance arm kit is a particular device that mounted on a Kolver Linar2 or Linart arm helps the operator in the assembly of self-tapping screws or in case of strong axial thrust.
Through a pneumatic piston, the part of the arm that supports the screwdriver is pushed down to help the axial thrust on the screw. The pneumatic piston is piloted by a electrovalve which, when properly powered, will push the piston (see the section dedicated to electrical connections).

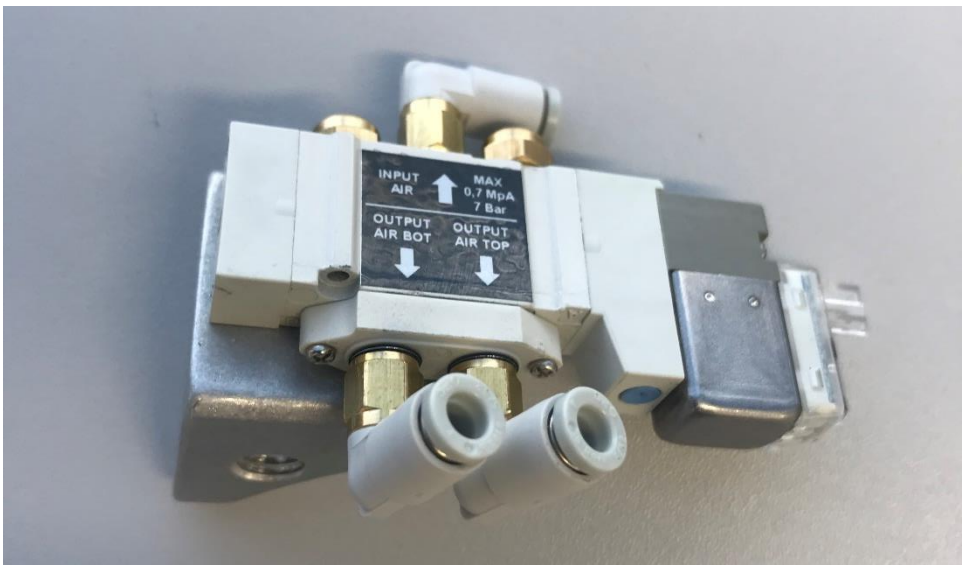
AUTOADVANCE KIT EXPLODED VIEW



SPARE PARTS

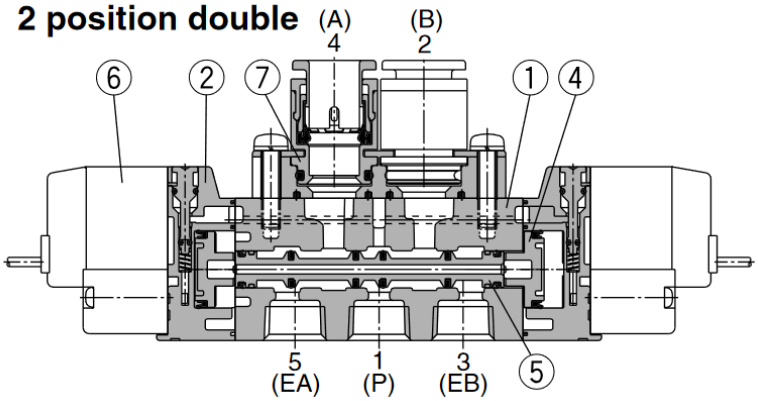
Position	DESCRIPTION	Code	Qty
1	RACCORDO SILENZIATORE	895094	2
2	ELETTROVALVOLA	895092	1
3	SUPPORTO ELETTROVALVOLA	895096	1
4	VITE M3x10	231530	2
5	RACCORDO ARIA 90° M5 TUBO 4MM	250073	3
6	ANELLO DI TEFLON AUTOAVANZANTE	895084	1
7	BOCCOLA DI GUIDA AUTOAVAZANTE	895080	1
8	MOLLA INTERNA AUTOAVANZANTE	895088	1
9	PERMAGLIDE AUTOAVANZANTE	895091	2
10	TUBO 4MM	250075	1
11	CILINDRO 12MM CORSA 50MM DOPPIO EFFETTO	895090	1
12	ANELLO FISSAGGIO PISTONE	895083	1
13	M5X14 BRUNITA	895021	2
14	SUPPORTO PISTONE	895087	1
15	CUFFIA TEFLON	895085	1
16	VITE M3X5	801003	4
17	ANELLO DI APPOGGIO	895086	1
18	M3 X 8	240005/ZN	4
19	GUIDA SFERE AUTOAVANZANTE	895082	1
20	REGOLATORE UNIDIREZIONALE	895093	2
21	SFERA DIAM. 3mm	200003	6
22	BOCCOLA DI BLOCCAGGIO	895081	1
23	VALVOLA CHIUSURA ARIA	895095	1
24	VITE M8 X 16	895019	1
25	CAVO ELETTROVALVOLA 2M	895092/2M	1

Electrovalve Specifications



1	2 position single (A) (B) 4 2 5 1 3 (EA) (P) (EB)

2 position double



Component Parts

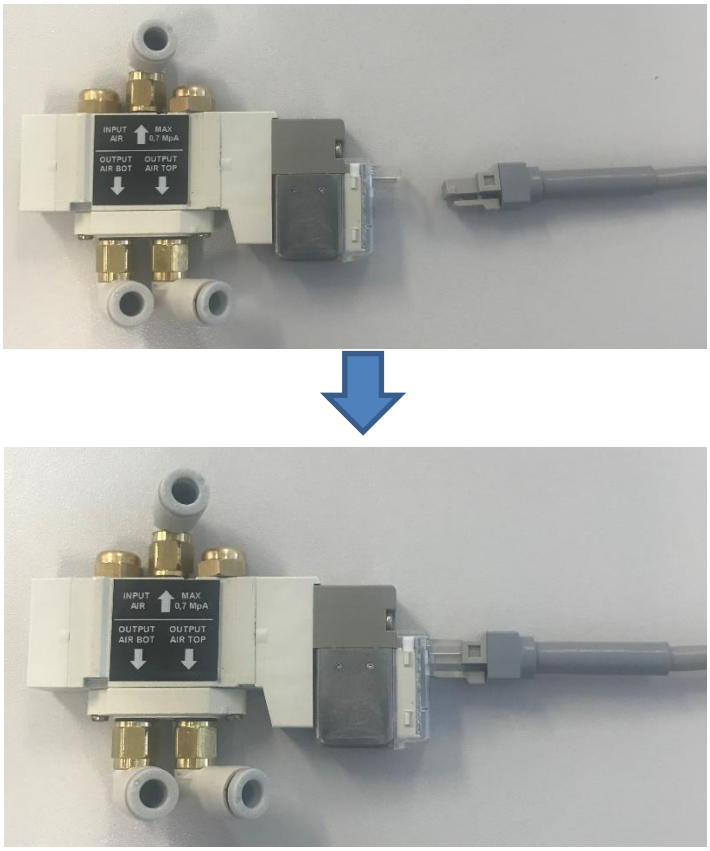
No.	Description	Material
1	**Body**	Aluminum die-casted (SY3000: Zinc die-casted)
2	**Adapter plate**	Resin
3	**End plate**	Resin
4	**Piston**	Resin
5	**Spool valve assembly**	Aluminum, H-NBR

Valve model	Type of actuation		Port size		Flow characteristics						Mass (g)		
					1→4/2 (P→A/B)			4/2→5/3 (A/B→EA/EB)					
			1, 5, 3 (P, EA, EB)	4, 2 (A, B)	C (kdm³/(s·bar))	b	Cv	C (kdm³/(s·bar))	b	Cv	Gro-mmet	L/M plug connector	W M8 connector
SY3□20 -□-M5	2 position	Single	M5 x 0.8	M5 x 0.8	0.61	0.44	0.16	0.64	0.45	0.18	51	53	57
		Double									68	74	82

Fluid	Air
Operating pressure	0,15 – 0,7 MPa
Ambient and fluid temperature	-10 - 50 °C
Max operation frequency	10 Hz
Pilot exhaust method	Common exhaust type
Lubrification	Not required
Impact/vibration (m/s²)	150/30
Enclosure	Dust proof
Terminal	IP65
Coil rated voltage	24 V ±10%
Power consumption	0,35 W
Response time	Max 13 ms

Electrical connection

Connect the supplied cable (code 895092/2M) to the electrovalve through the appropriate connector.



Cable between the control unit and the electrovalve

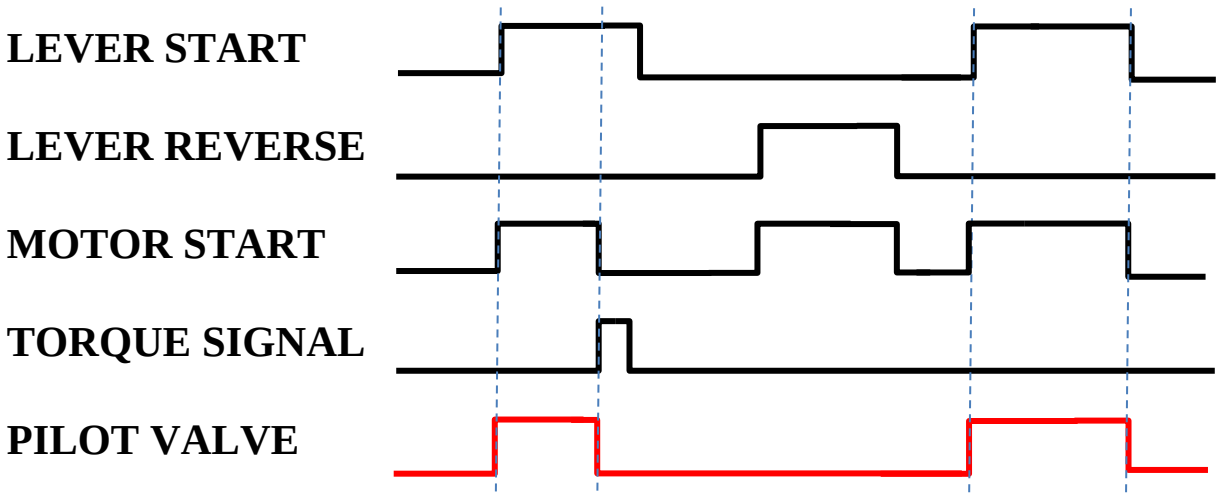
Cable 2 mt to connect the per connessione elettrovalvola cod. 895092/2M.

Sample with CN1 connector on bank panel of the unit

The 2 mt cable for connection to the electrovalve (code 895092/2M), it is supplied with a moulded electrovalve connector on one side and 2 wired pin on the opposite side. The red cable must be connected to the 24V “lever / W” or “Motor ON” signal present in the Output connectors of the Kolver units; while the black one will be connected to the common 0VDC.
NB: some unit models have specific output signals for use with a self-advancing arm called “Lever / W”.

I/O Kolver unit connection to advance arm

Model	Code	Electrovalve cable +24V Red wire	Electrovalve cable 0V Black wire
EDU 1FR/SG/W	010010/FR/SG/W	Pin 6	Pin 1
EDU 1BL/SG/W	003000/SG/W	Pin 7	Pin 9
EDU 2AE Series		Pin 4 CN1	Pin 2 CN1
KDU Series		Pin 42 CN3	Pin 44 CN3



Cylinder

- Conformi alla norma ISO 6432
  Compliant to norm ISO 6432
- Grande affidabilità e lunga durata
  High reliability and long life time
- Versione a doppio effetto, magnetica o non magnetica
  Magnetic or non-magnetic double acting version
- Versione a semplice effetto non magnetica
  Non-magnetic single acting version
- Esecuzioni speciali a richiesta
  Special versions on request

Materiali
Camicia: INOX
Stelo: INOX
Testate: alluminio anodizzato
Guarnizioni: NBR o VITON
Magnete: plastoferrite (non adatto per temperature oltre +60°C)

Materials
Barrel: stainless steel
Piston-rod: stainless steel
End-cups: aluminium (anodize treatment)
Sealings: NBR or VITON
Magnet: magnetic iron compound (not suitable for temperatures over +60 °C)

Forze di ritorno della molla per cilindri a semplice effetto
Return spring forces for single acting cylinders

alesaggio *bore*	**forza di ritono della molla** *return spring force*	stato della molla *spring status*
	corsa 50 *(stroke)*	
12	3.5 N	a riposo *(at rest)*
	6 N	compressa *(compressed)*

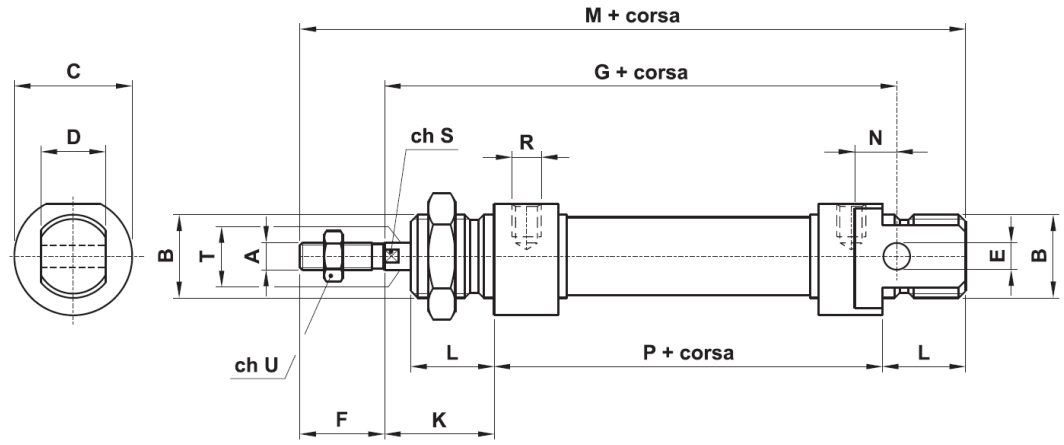
Pressione di esercizio *Working pressure*	max 10 bar max 1 MPa
Temperatura di esercizio *Temperature range*	max +60°C
Paracolpi meccanici *Mechanical cushoning*	Standard su tutta la gamma *Standard on the whole range*
Ammortizzo pneumatico *Pneumatic cushoning*	Disponibile per alesaggio 20 e 25 *Available for bore 20 and 25*
Fluido *Fluid*	Aria filtrata 50µ con o senza lubrificazione *50µ filtered, lubricated or non lubricated air*

Force

1 decaNewton [daN] = 10 N

1 decaNewton [daN] = 1,02 Kgf

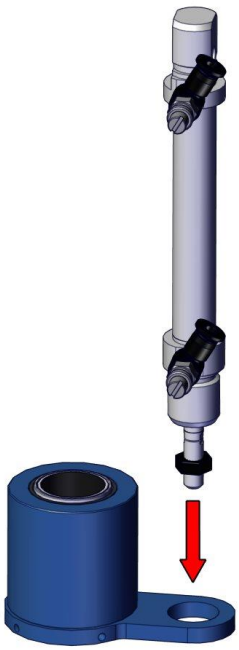
alesaggio cilindro [mm]	diametro stelo [mm]	moto	area utile [cm²]	forza in spinta e trazione in daN in funzione della pressione di esercizio in bar, a 20°C, con rendimento 0.9									
				1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
12	6	spinta trazione	1.13 1.00	1.017 0.763	2.035 1.526	3.053 2.290	4.071 3.053	5.089 3.816	6.107 4.580	7.124 5.343	8.142 6.107	9.160 6.870	10.178 7.633



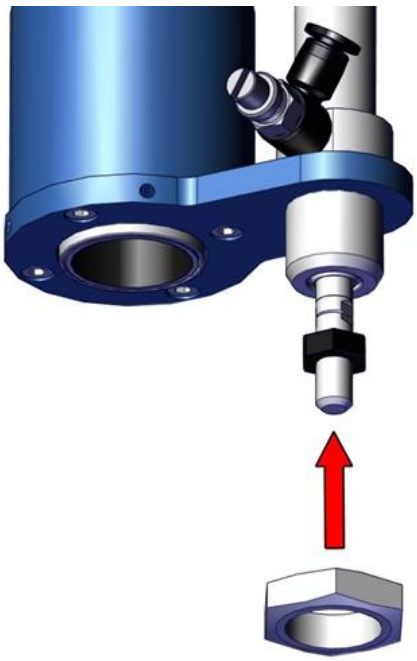
ø	A	B	C	D	E	F	G	K	L	M	N	P	R	S	T	U
12	M6	M16x1.5	ø19	12	ø6	16	75	22	18	104	9	48	M5	5	ø6	10

Mounting

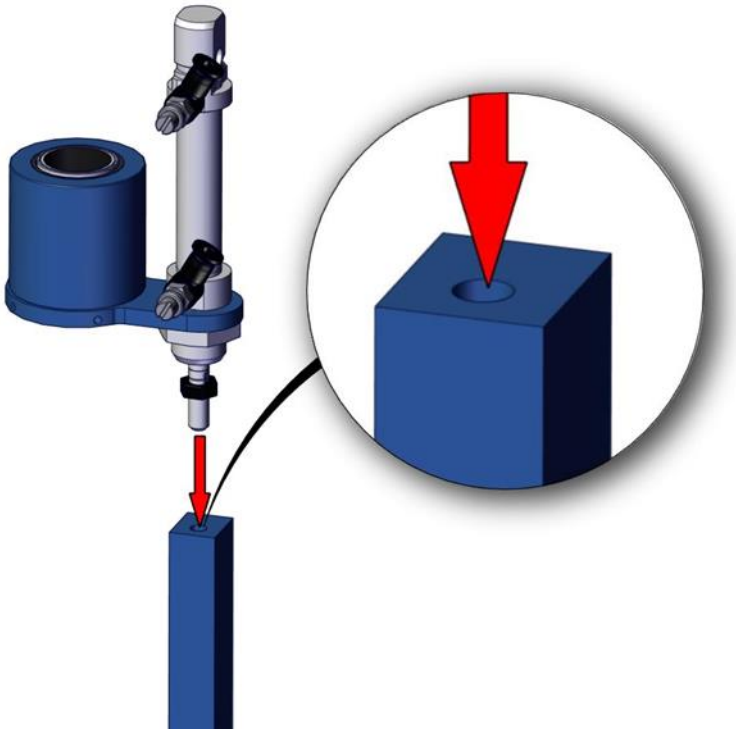
Insert the pneumatic cylinder into the hole of the fixing ring.



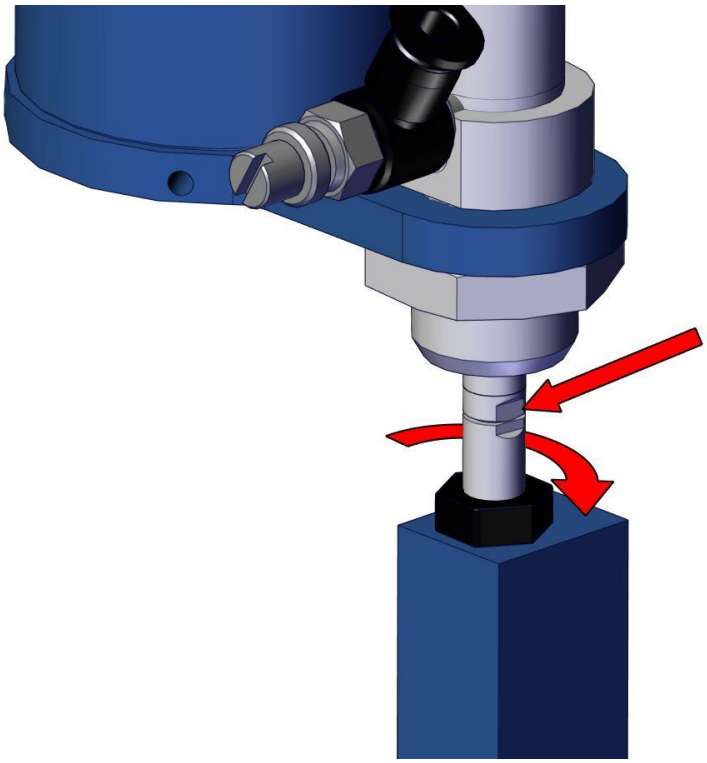
Secure the cylinder with the 22mm nut, keep the pneumatic fittings aligned laterally as shown in the figure.



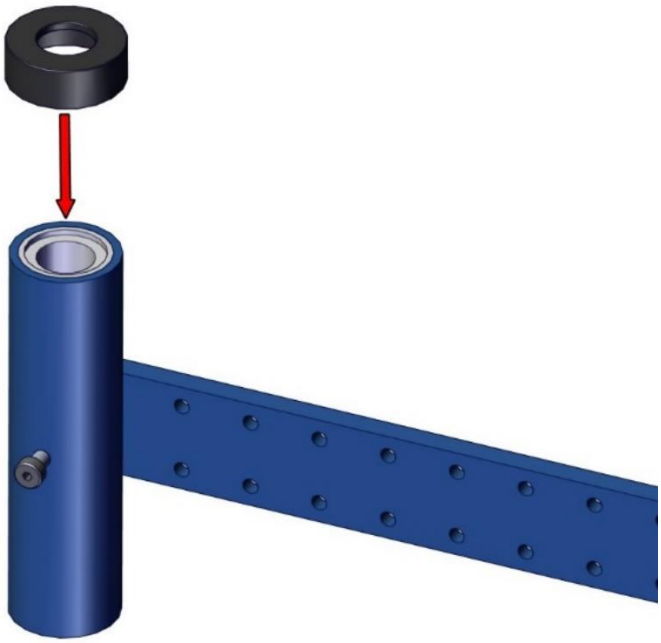
Connect the cylinder to the push bracket.



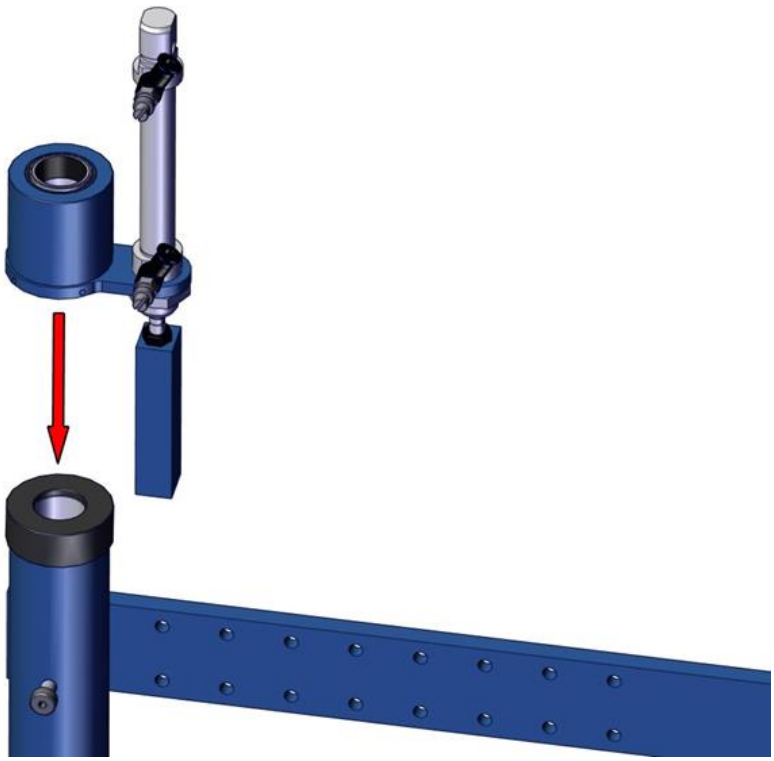
Fix the stem to the bracket up to the stop using the 5mm wrench. Secure the lock nut with a 10mm wrench.



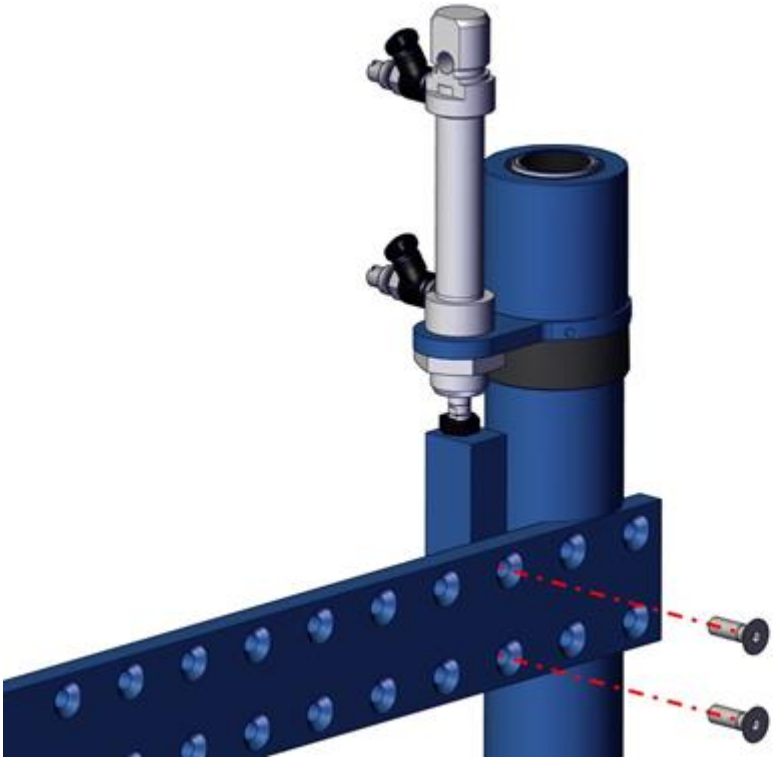
Place the bushing on the vertical bearing support.



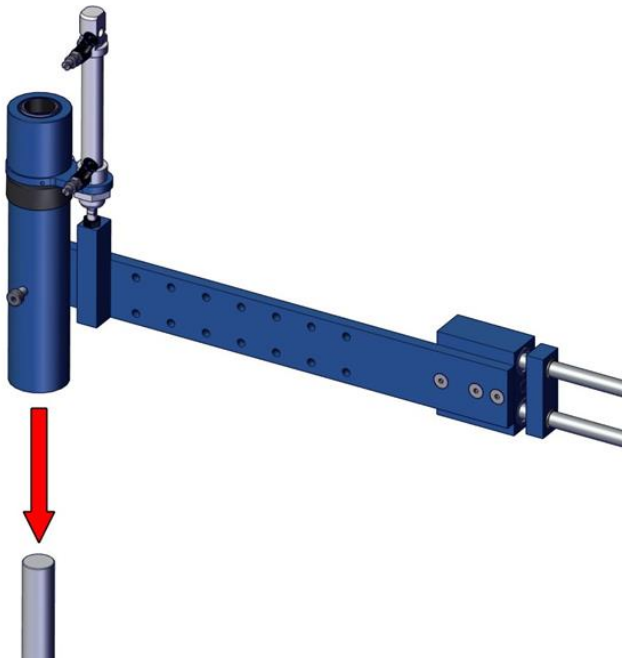
Join the assembled kit to the arm holder plate.



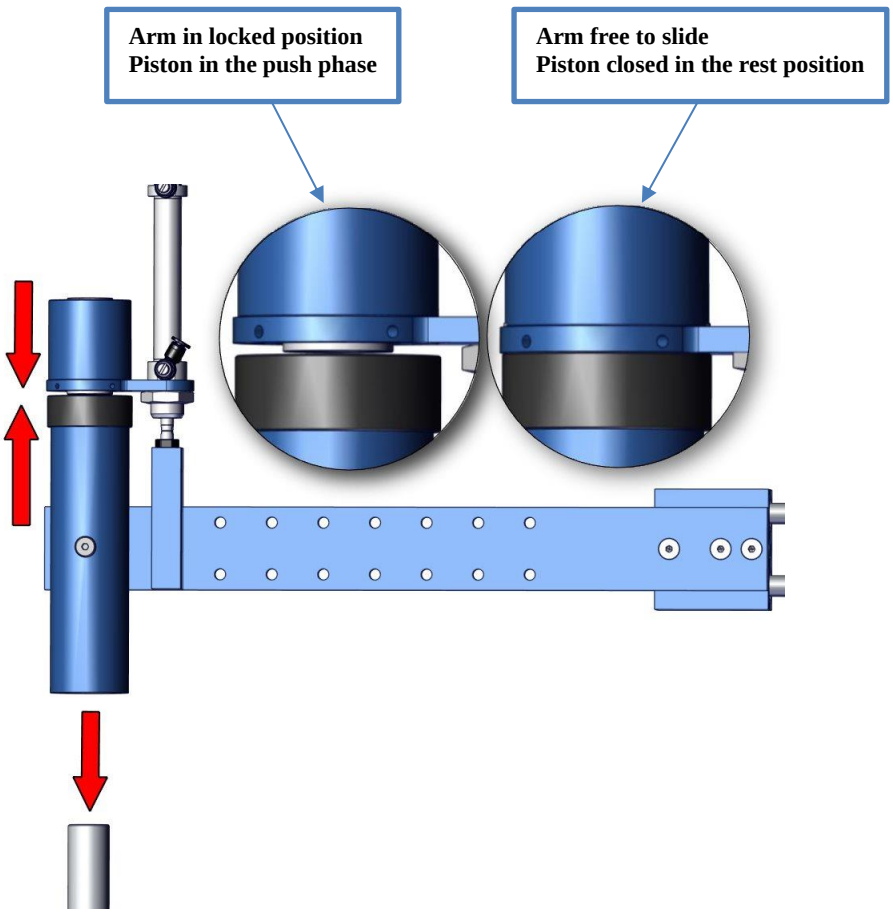
Align in the cylinder holder the fixing holes to the holes in the arm holder plate. Then fasten the screws.



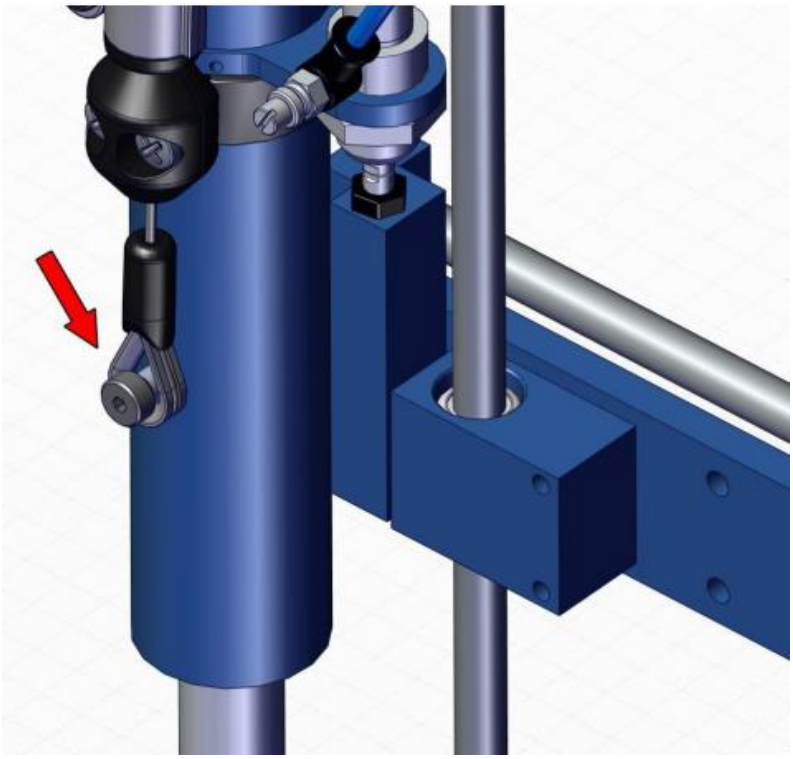
Insert the kit mounted on the sliding rod.



NB. In order to move manually the self-advancing block in the rod it is necessary to keep it pressed on the vertical bearing support in order to simulate the closing of the piston. If no pressure is exerted, the self-advancing block does not allow the arm to slide upwards. When the arm is in the rest position, the piston must remain closed so that the two parts are kept in support.

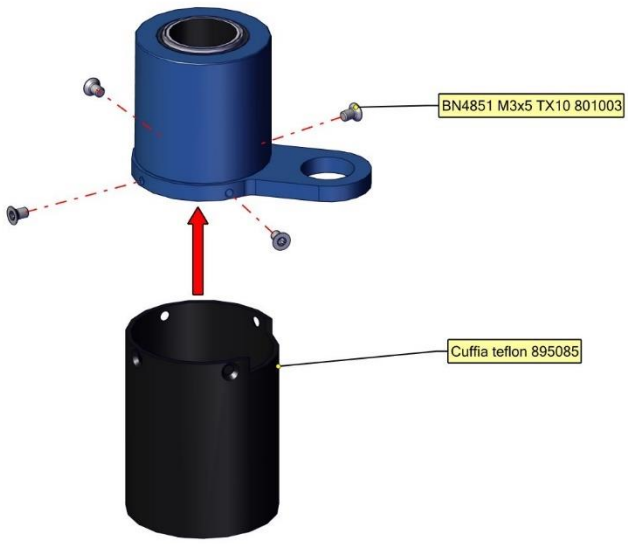


Hook the balancer cable to the lifting screw.



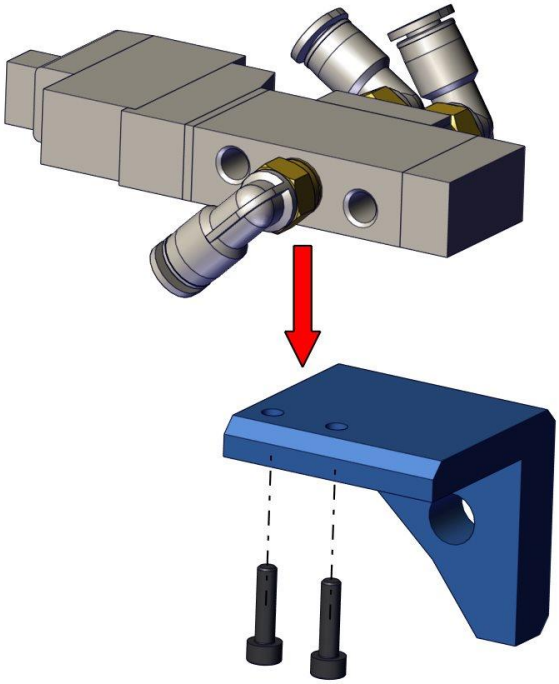
Protective hood assembly

The protection cap allows it to be mounted / dismounted on the self-advancing block at the end of the entire assembly.

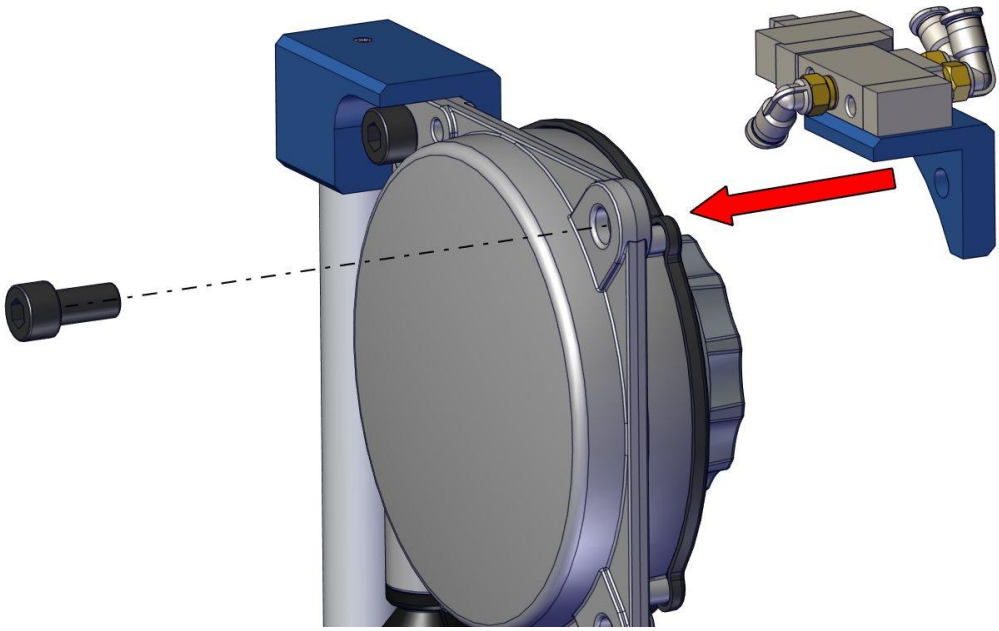


Pneumatic connections

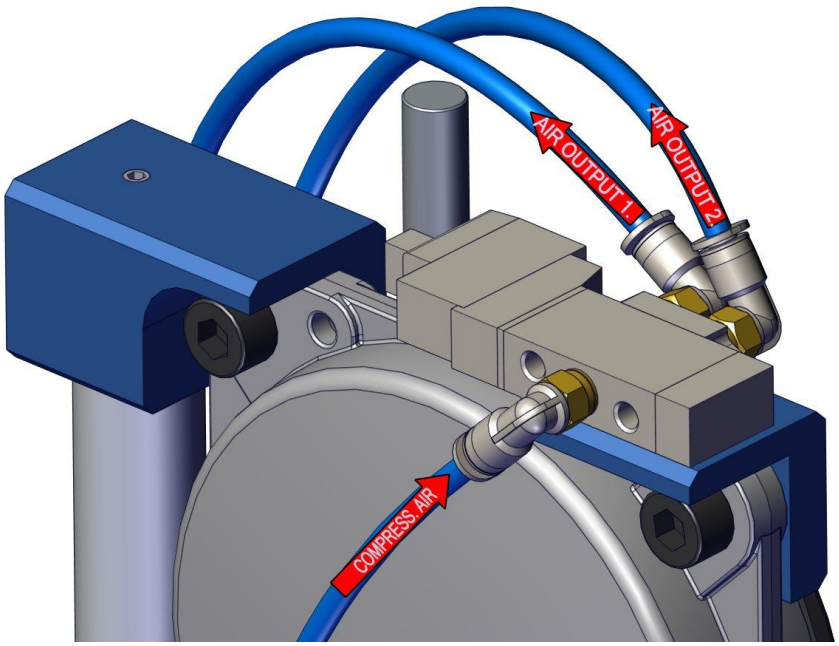
Electrovalve mounting to the support



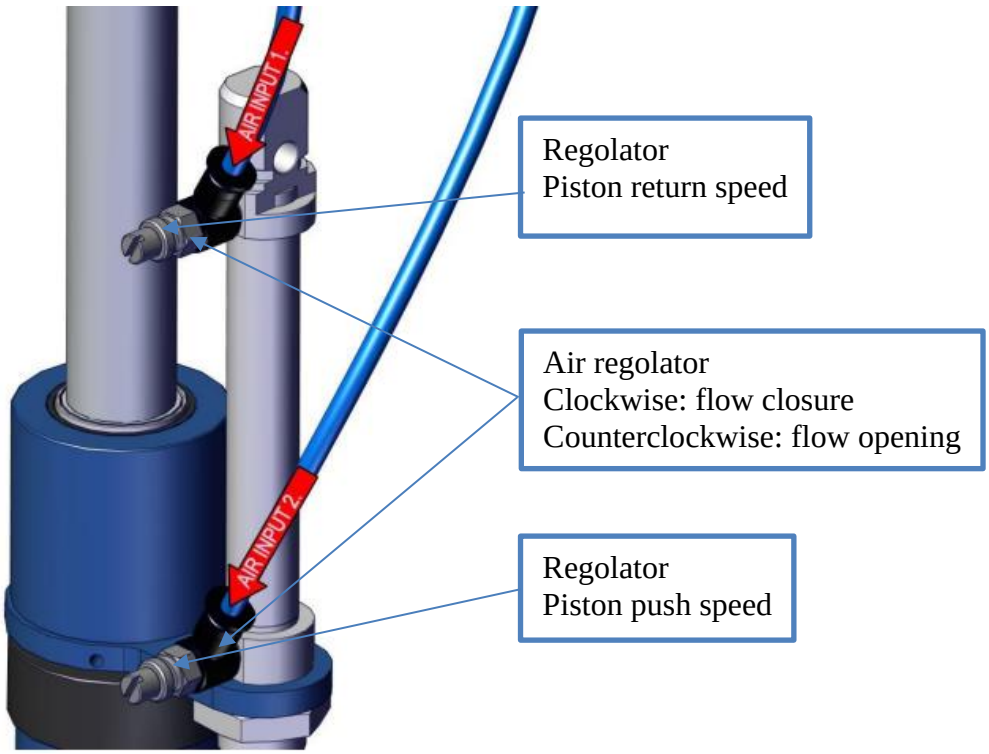
Electrovalve mounting to the balancer



Connection on the electrovalve



Connection on the piston



GUARANTEE

1. This KOLVER product is guaranteed against defective workmanship or materials, for a maximum period of 12 months following the date of purchase from KOLVER, provided that its usage is limited to single shift operation throughout that period. If the usage rate exceeds of single shift operation, the guarantee period shall be reduced on a prorata basis.
2. If, during the guarantee period, the product appears to be defective in workmanship or materials, it should be returned to KOLVER or its distributors, transport prepaied, together with a short description of the alleged defect. KOLVER shall, at its sole discretion, arrange to repair or replace free of charge such items.
3. This guarantee does not cover repair or replacement required as a consequence of products which have been abused, misused or modified, or which have been repaired using not original KOLVER spare parts or by not authorized service personnel.
4. KOLVER accepts no claim for labour or other expenditure made upon defective products.
5. Any direct, incidental or consequential damages whatsoever arising from any defect are expressly excluded.
6. This guarantee replaces all other guarantees, or conditions, expressed or implied, regarding the quality, the marketability or the fitness for any particular purpose.
7. No one, whether an agent, servant or employee of KOLVER, is authorized to add to or modify the terms of this limited guarantee in any way. However it’s possible to extend the warranty with an extra cost. Further information at kolver@kolver.it.