

GREASE AND OIL ELECTRIC PUMPS
ILC-MAX





HOW TO ORDER

40.2.24AC.FST.G

RESERVOIR 2 = 2 Kg transparent 4 = 4 Kg transparent 8 = 8 Kg transparent 5 = 5 Kg metallic	
TENSION 12DC = 12 V DC 24DC = 24 V DC 24AC = 24 V AC 115V = 115 V AC 230V = 230 V AC	
PUMPING ELEMENT F = fixed discharge R = adjustable discharge	
TIMER CT = with timer ST = without timer	
LUBRICANT G = grease O = oil	

All the pumps are equipped with **lubricant low level switch** and grease pumps (*not oil ones*) with 2, 4 and 8 kg reservoir are equipped with **electrical control of motor rotation**.

Models with timer are equipped with 7-poles TYCO connector and 4-poles M12x1 one; **models without timer** are equipped with only 7-poles TYCO connector.

PUMP MOUNTING

Pumps must be secured in a vertical position by two bolts, nuts and washers through integrated mounting bracket of pump body

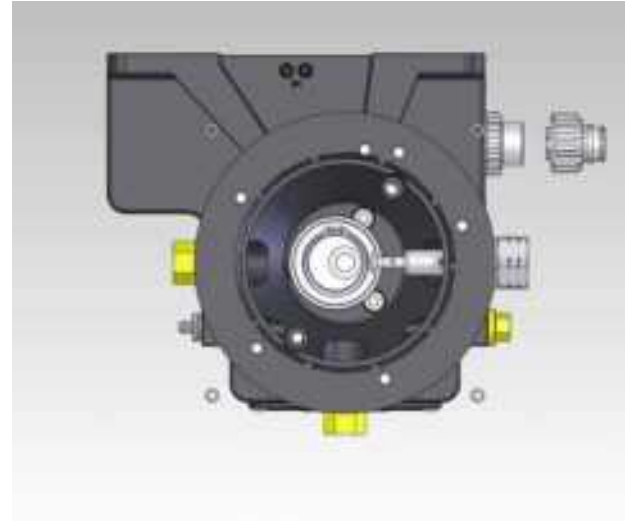
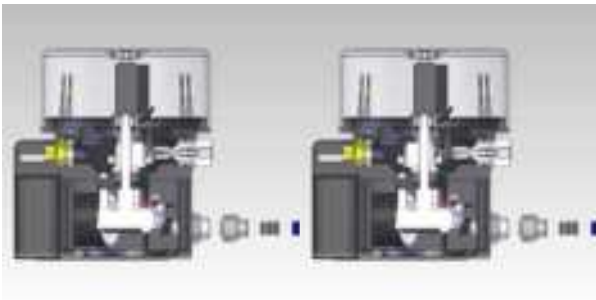


ELECTRIC PUMPS
GREASE (ILC-MAX-G)
OR OIL (ILC-MAX-O)

APPLICATIONS

Ideally suitable for the automatic grease lubrication of all types of industrial machines and as a chassis lubrication pump for trucks, trailers, buses, construction and mechanical handling vehicles.

In conjunction with ILC DPA, DPM or DPX progressive dividers, more than three hundred greasing points can be automatically centralized from just a single grease pump.



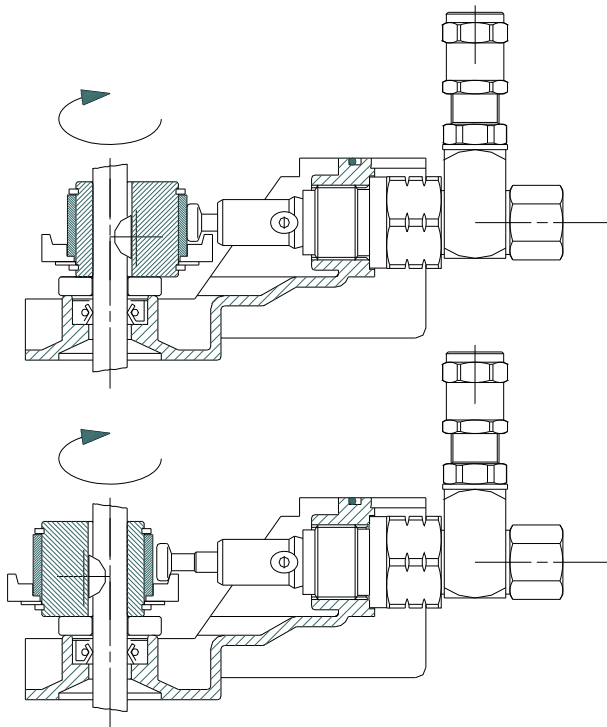
OPERATION

The pumps are designed for intermittent or continuous operation to provide regular pre-programmed lubrication cycles as required for the various applications.

A direct-mounted electric geared motor drives an internal rotating cam, which can actuate up to three externally mounted pump elements.

Every pumping element has a relief valve to protect the system against over-pressure.

To have a bigger discharge it is possible to collect the three outlets from the pumping elements together in a single tube.



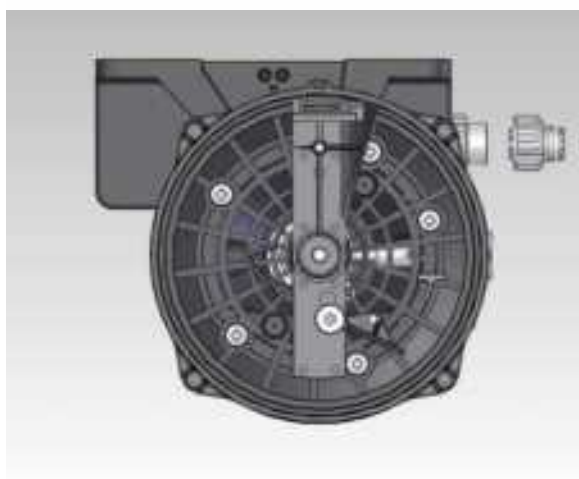
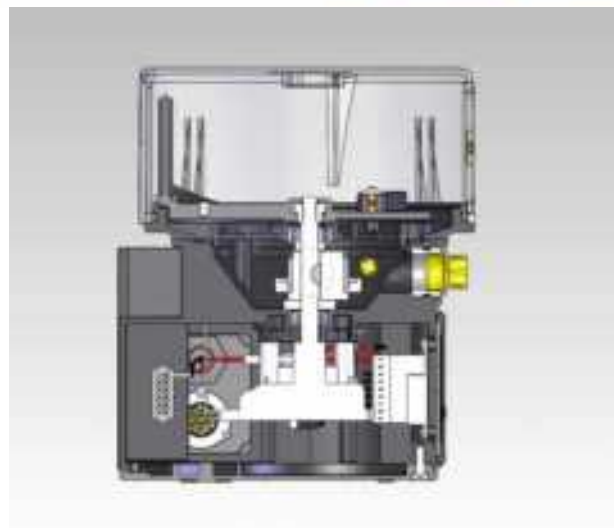


*ELECTRIC PUMPS
GREASE (ILC-MAX-G)
OR OIL (ILC-MAX-O)*

The transparent reservoir has 2 KG, 4 KG or 8 KG capacity and metallic reservoir has 5 KG.

The pumps can attain a maximum recommended operating pressure of 250 bar per outlet and will deliver up to 2.88 cc/minute per outlet.

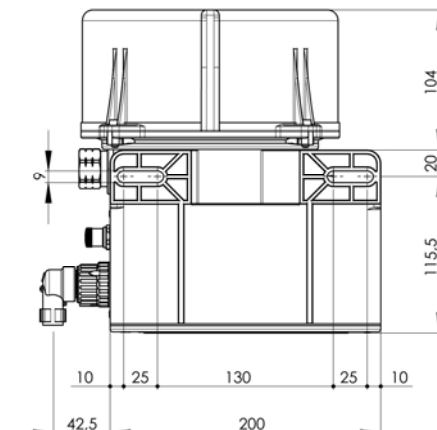
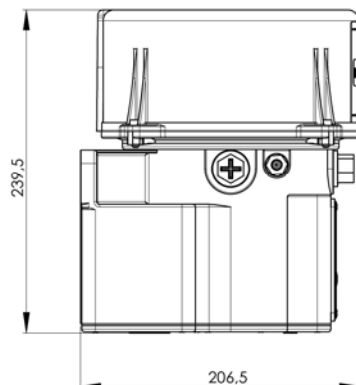
The internal drive shaft is coupled to a specially formed stirring paddle in the reservoir of the pump unit which ensures continuous priming of the pump element inlets, even with grease up to NLGI No. 2 consistency at ambient temperature down to -20 °C



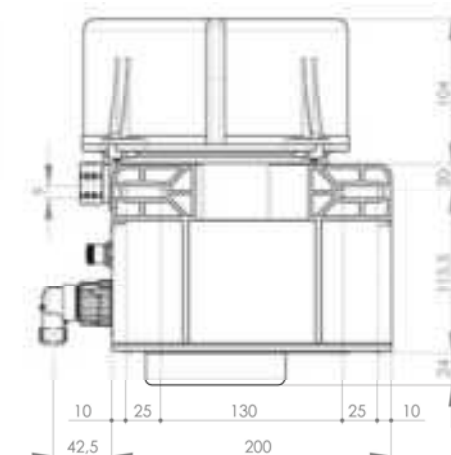
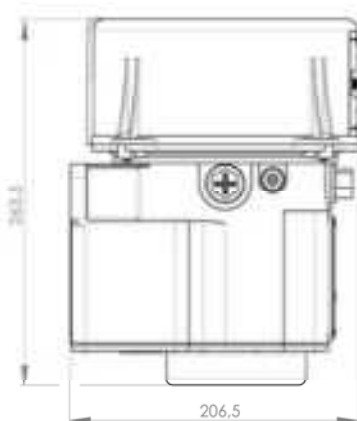
The gear motor is protected by means of an IP-56 protection degree covering (NYLON PA6 +30% FIBERGLASS). The seal is guaranteed from well-mounted "o"-ring.

The pumps can have an integrated electronic control timer built into the covering. The timer can be pre-programmed to automatically operate the pump with variable "working time" and "pause times".

GREASE ELECTRIC PUMP ILC-MAX-G 2 (12/24 V DC – 24 V AC)



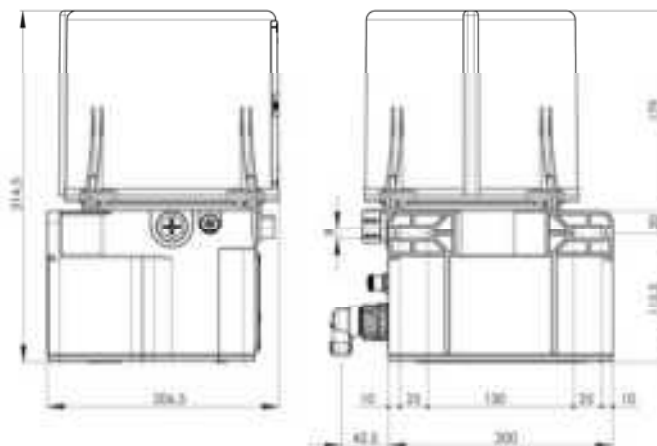
GREASE ELECTRIC PUMP ILC-MAX-G 2 (115/230 V AC)



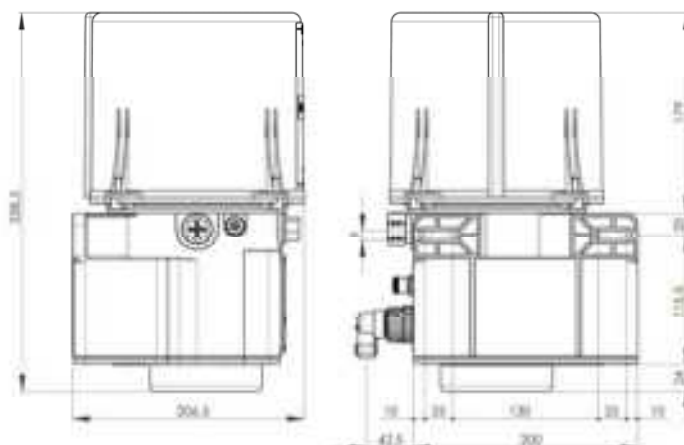
TECHNICAL DATA

NUMBER OF OUTLETS	FROM 1 TO 3
DISCHARGE/ROPE WITH FIXED PUMPING ELEMENT	0.16 CC
DISCHARGE/ROPE WITH ADJUSTABLE PUMPING ELEMENT	0.01 – 0.16 CC
RPM	23 rpm (12 V DC) - 22 rpm (24 V DC) - 29 rpm (230 V AC) - 31 rpm (115 V AC)
DISCHARGE/MIN WITH FIXED PUMPING ELEMENT	3,68 cm ³ (12 V DC) / 3,52 cm ³ (24 V DC) / 4,64 cm ³ (230 V AC) / 4,96 cm ³ (115 V AC)
DISCHARGE/MIN WITH ADJUSTABLE PUMPING ELEMENT	0,23 – 3,68 cm ³ (12 V DC) / 0,22 – 3,52 cm ³ (24 V DC) / 0,29 – 4,64 cm ³ (230 V AC) / 0,31 – 4,96 cm ³ (115 V AC)
SUITABLE LUBRICANTS	GREASE UP TO NLGI NO. 2 CONSISTENCY
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	2 KG - PLASTIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1 A 140 V AC – 200 V DC 10 W NO A pulse from open to close is created at every revolution when reservoir is empty
RPM CONTROL	1 A 140 V AC – 200 V DC 10 W NO – Contact closes at every rotation

GREASE ELECTRIC PUMP ILC-MAX-G 4 (12/24 V DC – 24 V AC)



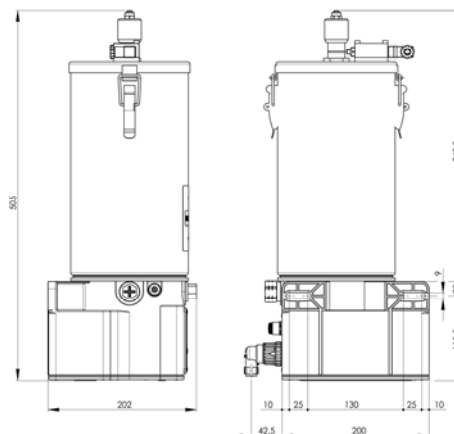
GREASE ELECTRIC PUMP ILC-MAX-G 4 (115/230 V AC)



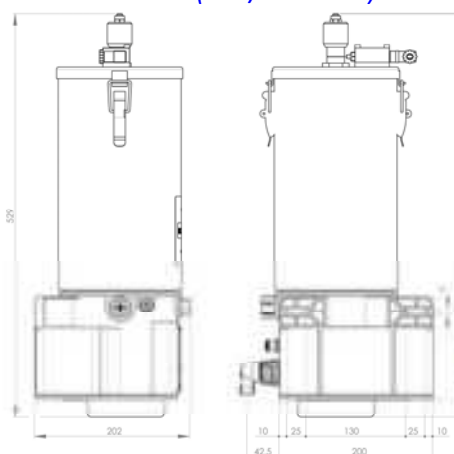
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SUITABLE LUBRICANTS	GREASE UP TO NLGI NO. 2 CONSISTENCY
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	4 KG - PLASTIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1 A 140 V AC – 200 V DC 10 W NO A pulse from open to close is created at every revolution when reservoir is empty
RPM CONTROL	1 A 140 V AC – 200 V DC 10 W NO – Contact closes at every rotation

GREASE ELECTRIC PUMP ILC-MAX-G 5 (12/24 V DC – 24 V AC)



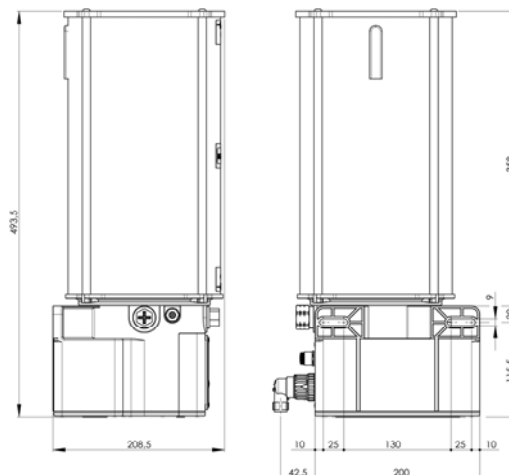
GREASE ELECTRIC PUMP ILC-MAX-G 5 (115/230 V AC)



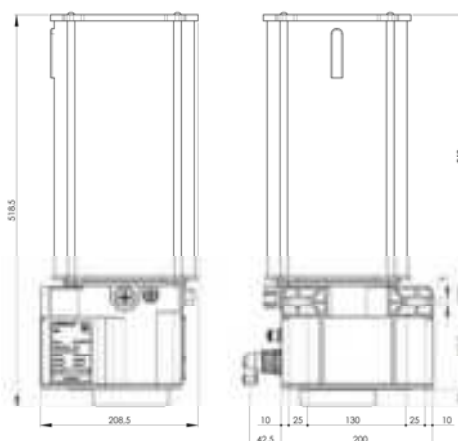
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MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	5 KG - METALLIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	5A – 250 V AC / 0.4 A - 125 V DC – NC o NO contact

GREASE ELECTRIC PUMP ILC-MAX-G 8 (12/24 V DC – 24 V AC)



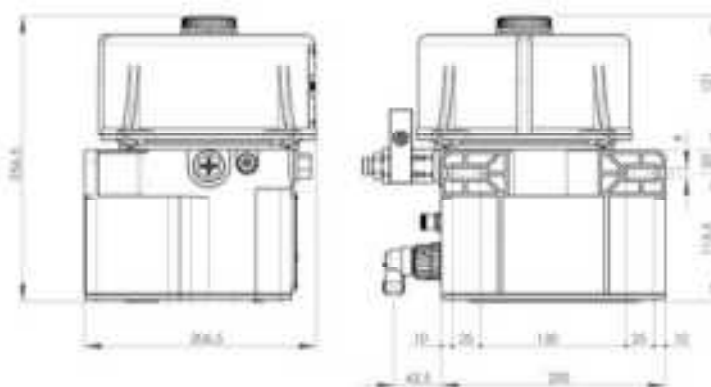
GREASE ELECTRIC PUMP ILC-MAX-G 8 (115/230 V AC)



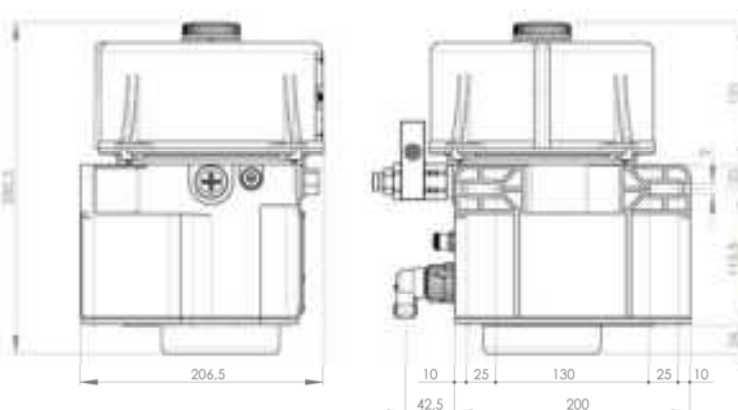
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SUITABLE LUBRICANTS	GREASE UP TO NLGI NO. 2 CONSISTENCY
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	8 KG - PLASTIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1 A 140 V AC – 200 V DC 10 W NO A pulse from open to close is created at every revolution when reservoir is empty
RPM CONTROL	1 A 140 V AC – 200 V DC 10 W NO – Contact closes at every rotation

OIL ELECTRIC PUMP ILC-MAX-O 2 (12/24 V DC – 24 V AC)



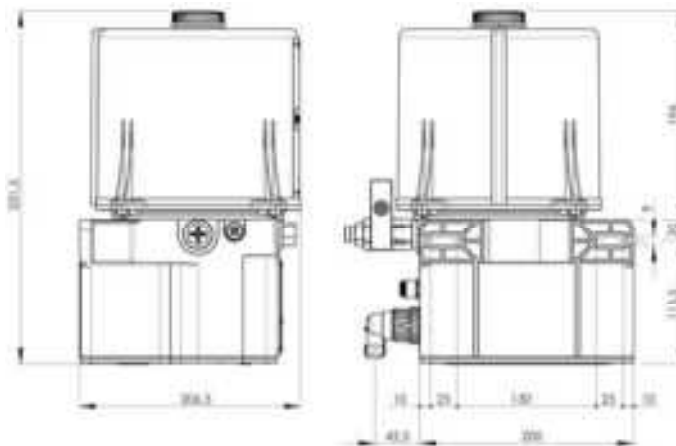
OIL ELECTRIC PUMP ILC-MAX-O 2 (115/230 V AC)



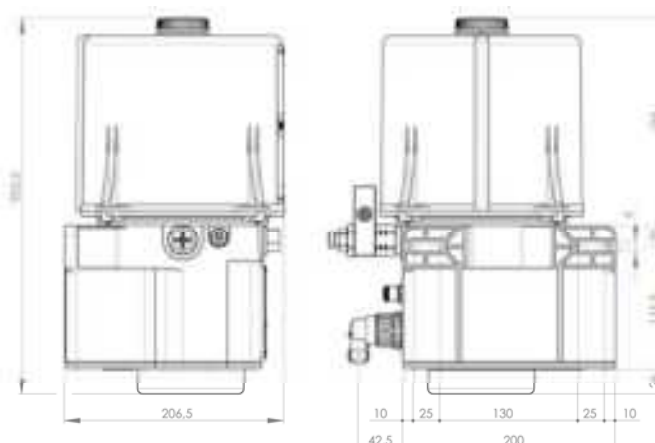
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SUITABLE LUBRICANTS	MINERAL OILS 50-1500 cSt
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	2 L - PLASTIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1 A 140 V AC – 200 V DC 10 W NO - Contact opens when reservoir is empty

OIL ELECTRIC PUMP ILC-MAX-O 4 (12/24 V DC – 24 V AC)



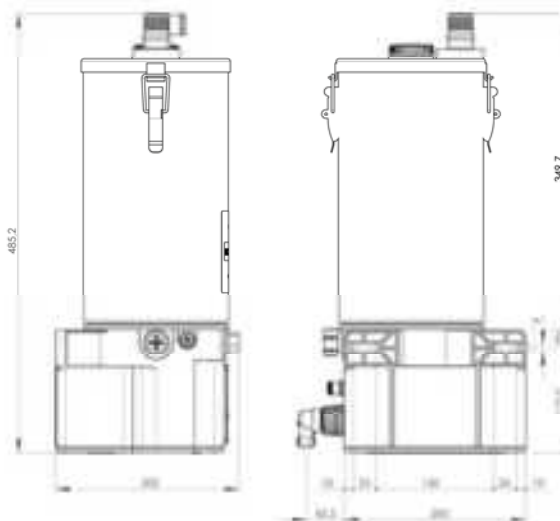
OIL ELECTRIC PUMP ILC-MAX-O 4 (115/230 V AC)



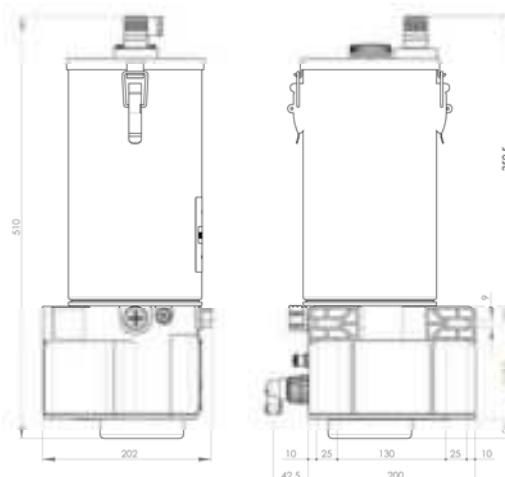
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SUITABLE LUBRICANTS	MINERAL OILS 50-1500 cSt
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	4 L - PLASTIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1 A 140 V AC – 200 V DC 10 W NO - Contact opens when reservoir is empty

OIL ELECTRIC PUMP ILC-MAX-O 5 (12/24 V DC – 24 V AC)



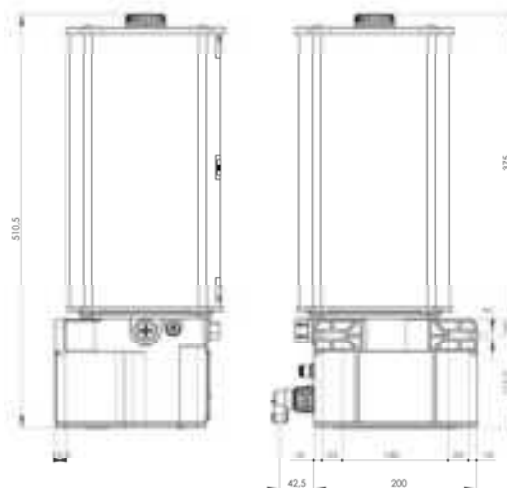
OIL ELECTRIC PUMP ILC-MAX-O 5 (115/230 V AC)



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SUITABLE LUBRICANTS	MINERAL OILS 50-1500 cSt
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	5 L - METALLIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1.5 A 250 V AC – 200 V DC 50 W – NC o NO contact

OIL ELECTRIC PUMP ILC-MAX-O 8 (12/24 V DC – 24 V AC)



OIL ELECTRIC PUMP ILC-MAX-O 8 (115/230 V AC)



TECHNICAL DATA

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SUITABLE LUBRICANTS	MINERAL OILS 50-1500 cSt
MAX. OPERATING PRESSURE	275 BAR (3993 PSI) ±10%
RESERVOIR CAPACITY	8 L - PLASTIC
TEMPERATURE	FROM - 20 °C TO + 80 °C
OUTLET CONNECTION	1 / 4" G
LOW LEVEL SWITCH	1 A 140 V AC – 200 V DC 10 W NO - Contact opens when reservoir is empty

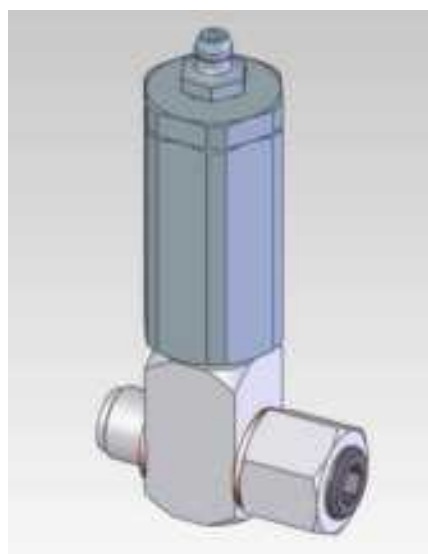
ACCESSORIES

REFILL GRASE STRAINER

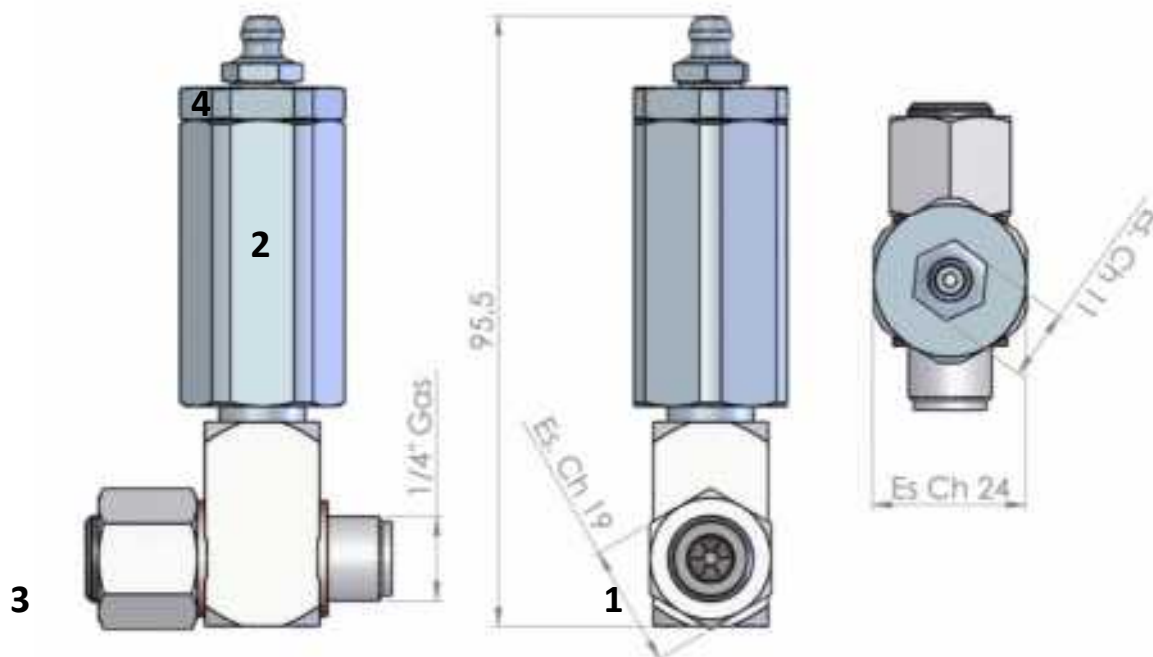
A70.093526

It is possible to install a strainer (300 micron) to prevent impurities during the refilling operation.

This strainer can be installed instead of the grease nipple supplied on the pump base.



	DESCRIPTION	CODE
1	Banjo connectors	A70.093186
2	Filler strainer set	07.270.0
3	Plug 1/4" Gas	A92.087057
4	Grease nipple 1/8" Gas	A70.078422



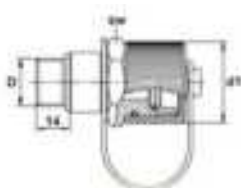
ACCESSORIES

PUMP MANUAL AND ADAPTOR TO FILL ILC-MAX PUMPS

Unscrew yellow plug
Install filling connection
Insert cartridge inside the manual pump
Refill reservoir
Unscrew filling connection
Reinstall yellow plug

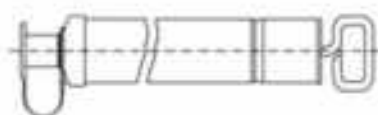


FILLING CONNECTION



CODE	D	SW
ZZZ100-208	M22X1.5	32

FILLING PUMP

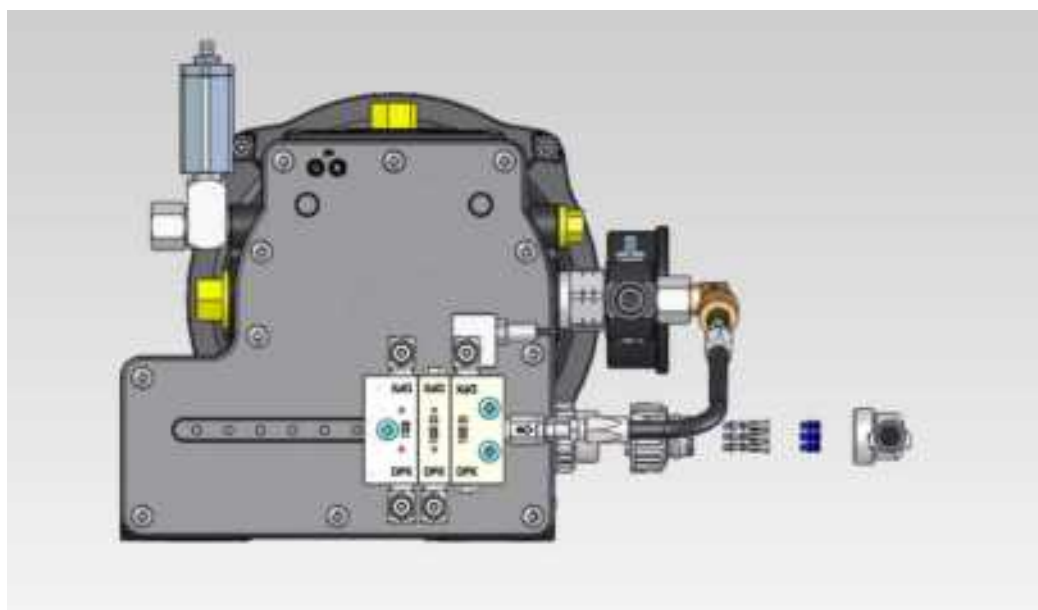


CODE TO ORDER		ZZZ100-201
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ACCESSORIES

DPX ASSEMBLED ON PUMP

ILC-MAX is set up to be assembled with a DPX from 3 to 9 elements mounted directly under the pump base.



40.KRT.001

Kit to assemble ILC-MAX with DPX



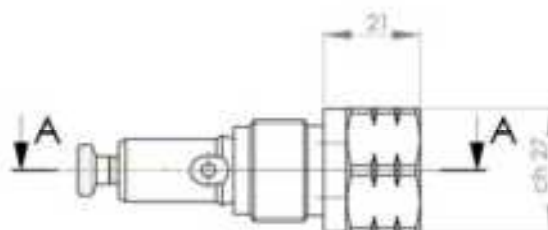
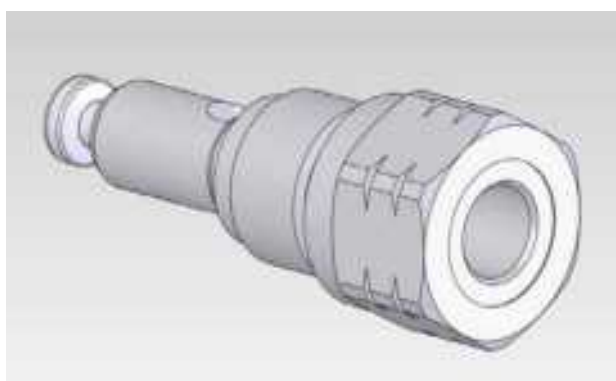
ACCESSORIES

FIXED PUMPING ELEMENT

90.900.0

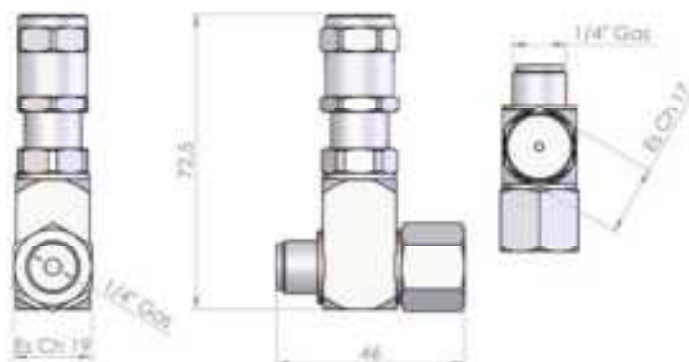


A70.093245



To add an **external safety valve** it is possible to order:

A70.093133

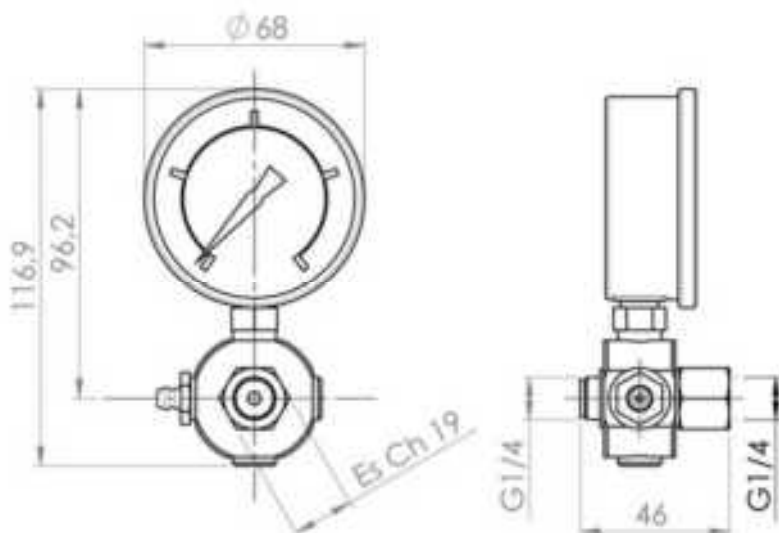




FIXED PUMPING ELEMENT ACCESSORIES

**BLOCK COMPLETE OF PRESSURE GAUGE AND
GREASE NIPPLE
40.BMI.01**

This block can be directly mounted in the delivery and permits to check operation pressure by mean of the pressure gauge and to fill the system through the grease nipple with a manual or pneumatic pump.

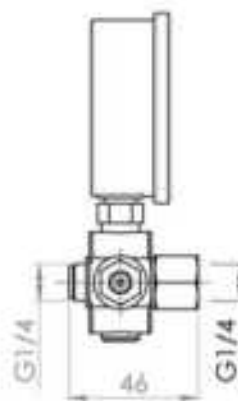
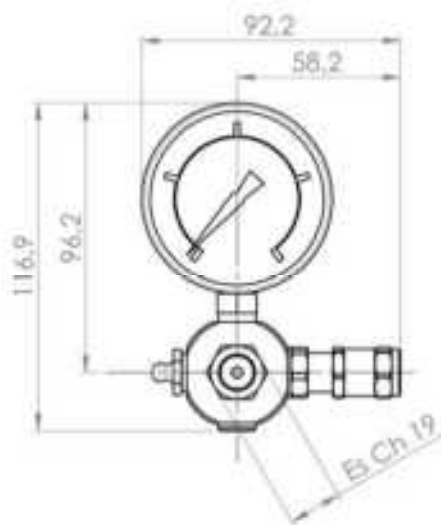
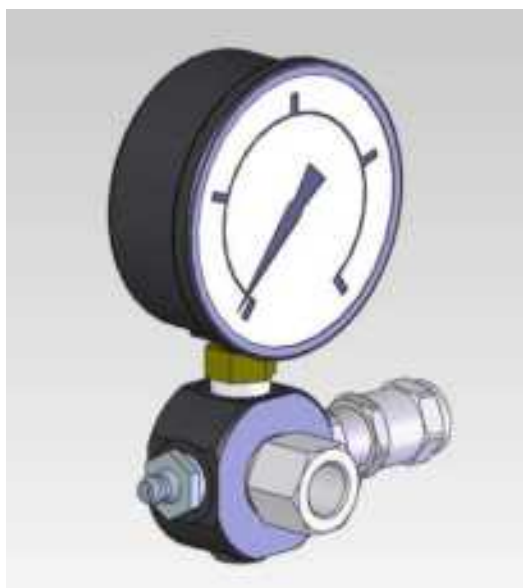


FIXED PUMPING ELEMENT ACCESSORIES

**BLOCK COMPLETE OF PRESSURE GAUGE WITH
SAFETY VALVE AND GREASE NIPPLE**
40.BMI.02

This block can be directly mounted in the delivery and permits to check operation pressure by mean of the pressure gauge and to fill the system through the grease nipple with a manual or pneumatic pump.

It is equipped with a safety valve which protects system from overpressures.



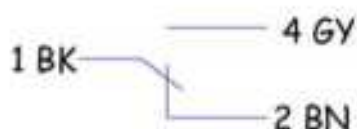
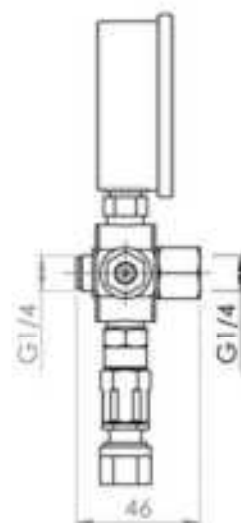
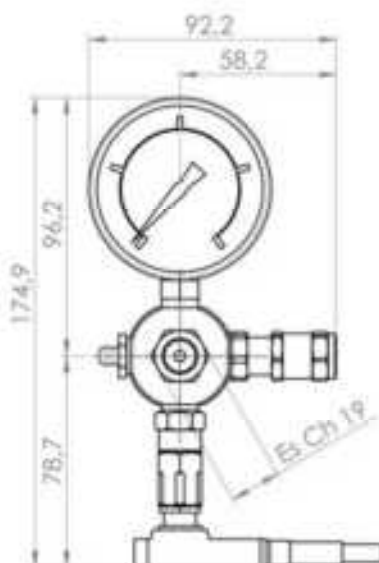
FIXED PUMPING ELEMENT ACCESSORIES

**BLOCK COMPLETE OF PRESSURE GAUGE,
ELECTROMECHANICAL SENSOR AND
GREASE NIPPLE**

40.BMI.03

This block can be directly mounted in the delivery and permits to check operation pressure by mean of the pressure gauge and to fill the system through the grease nipple with a manual or pneumatic pump.

It is equipped with a safety valve which protects system from overpressures and an electromechanical sensor to check if there's high pressure in the main line.



1 A 230 V AC – 250 V DC 40 W

**Connessione consigliata
Recommended Connection**

- 1- Marrone / Brown
- 2-
- 3-
- 4-Nero / Black





FIXED PUMPING ELEMENT ACCESSORIES

BLOCK COMPLETE OF PRESSURE GAUGE, INDUCTIVE SENSOR AND GREASE NIPPLE

40.BMI.04

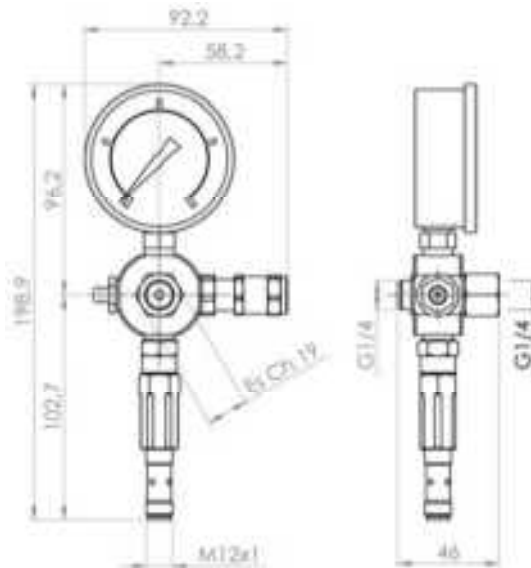
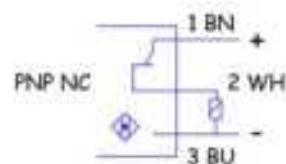
This block can be directly mounted in the delivery and permits to check operation pressure by mean of the pressure gauge and to fill the system through the grease nipple with a manual or pneumatic pump.

It is equipped with a safety valve which protects system from overpressures and an inductive sensor to check if there's high pressure in the main line.

FEATURES

VOLTAGE	6-30 V DC
OUTLET CURRENT	MAX 200 Ma
CURRENT	< 12 Ma
TEMPERATURE RANGE	- 25°C + 70°C
PROTECTION	IP 67
CASING	STAINLESS STEEL
CABLE	3x0.14 mm ² PVC

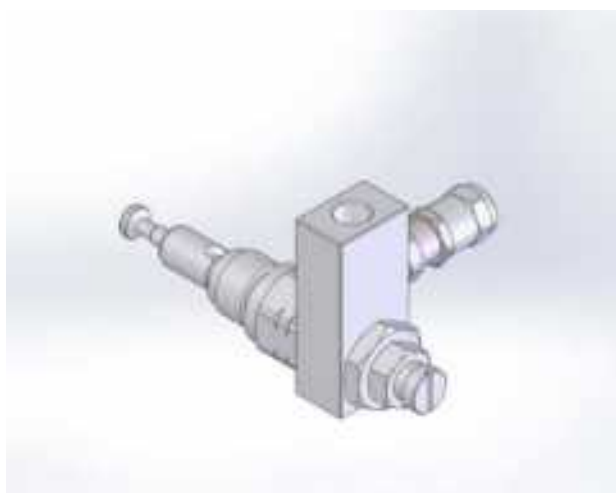
ELECTRICAL WIRING



ACCESSORIES

ADJUSTABLE PUMPING ELEMENT

90.900.3



Pumping element has 2 adjunctive 1/4" G outlets that can be used to mount following accessories:

Safety valve / A68.075011

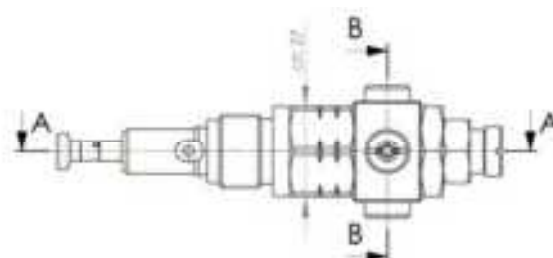
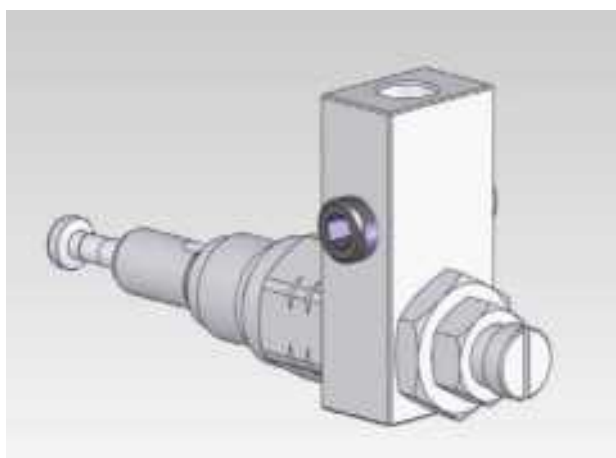
Pressure Gauge 0-400 / 46.600.0

Inductive sensor 250 Bar / 09.713.7

Electromechanical sensor 250 Bar / 09.713.7

Grease nipple / 39.000.3

90.900.4



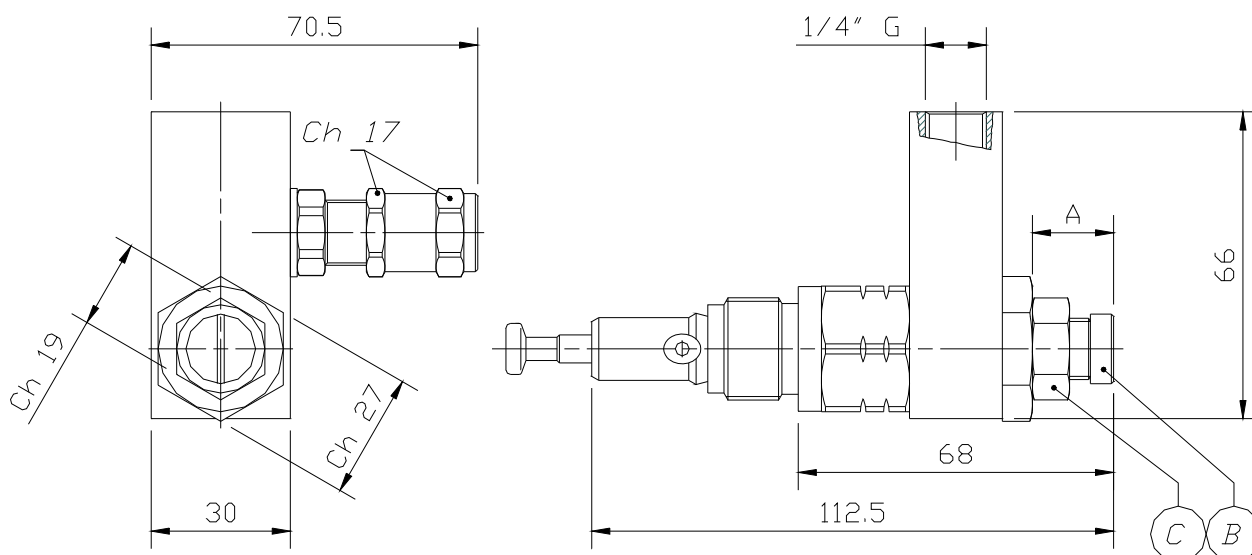
To add an **external safety valve** it is possible to order:

A68.075011



ACCESSORIES

PUMPING ELEMENT ADJUSTMENT



The nominal delivery rate of the pumping element can be adjusted by loosening the locking nut (pos. c) and rotating the adjustment screw (pos. b) clockwise to reduce delivery, or counter clockwise to increase delivery of the lubricant. The output adjustment table describes the equivalent outputs that can be obtained by varying the distance (a) of the adjustment screw (pos. b).

IMPORTANT:

"A" HAVE NOT TO BE MORE THAT 23.6MM

DISCHARGE ADJUSTMENT TABLE		
A	DISCHARGE/CYCLE	PERCENTAGE
23.6	0.16 CC	100 %
22.5	0.12 CC	75 %
21	0.08 CC	50 %
19.5	0.04 CC	25 %
18.5	0.01 CC	6 %
17.5	0.00 CC	0 %

ADJUSTABLE PUMPING ELEMENT ACCESSORIES

TWO WAYS BANJO CONNECTOR WITH PRESSURE GAUGE

A70.093523

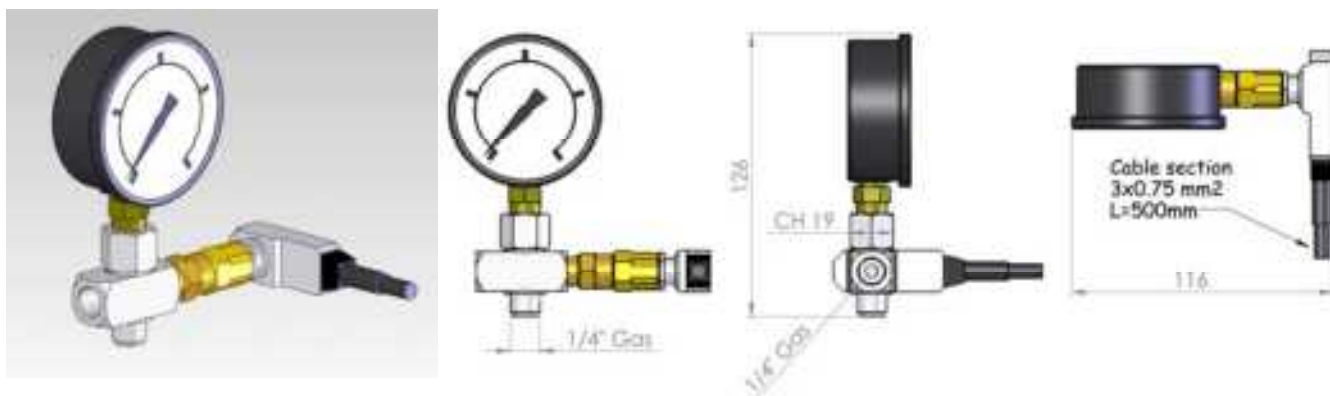
This block can be directly mounted in the delivery and permits to check operation pressure by mean of pressure gauge.



ADJUSTABLE PUMPING ELEMENT ACCESSORIES

**THREE WAYS BANJO CONNECTOR
WITH PRESSURE GAUGE
AND ELECTROMECHANICAL SENSOR
A70.093525**

This block can be directly mounted in the delivery and permits to check operation pressure by mean of pressure gauge and it is also equipped of an electromechanical sensor to check if there's high pressure in the main line.



1 BK — 4 GY
2 BN

1 A 230 V AC – 250 V DC 40 W

Connessione consigliata
Recommended Connection

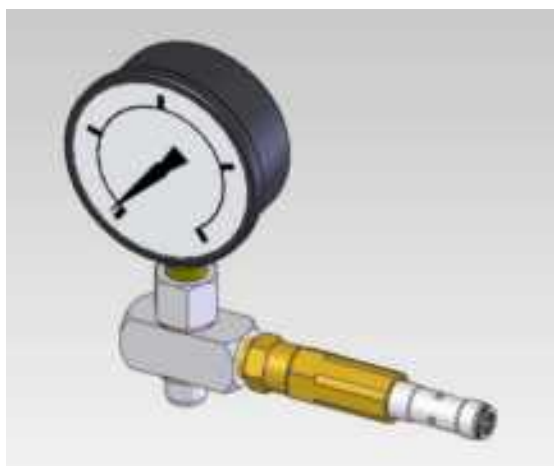
- 1- Marrone / Brown
- 2-
- 3-
- 4- Nero / Black



ADJUSTABLE PUMPING ELEMENT ACCESSORIES

**THREE WAYS BANJO CONNECTOR
WITH PRESSURE GAUGE
AND INDUCTIVE SENSOR
A70.093524**

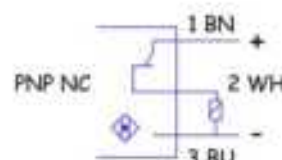
This block can be directly mounted in the delivery and permits to check operation pressure by mean of pressure gauge and it is also equipped of an inductive sensor to check if there's high pressure in the main line.



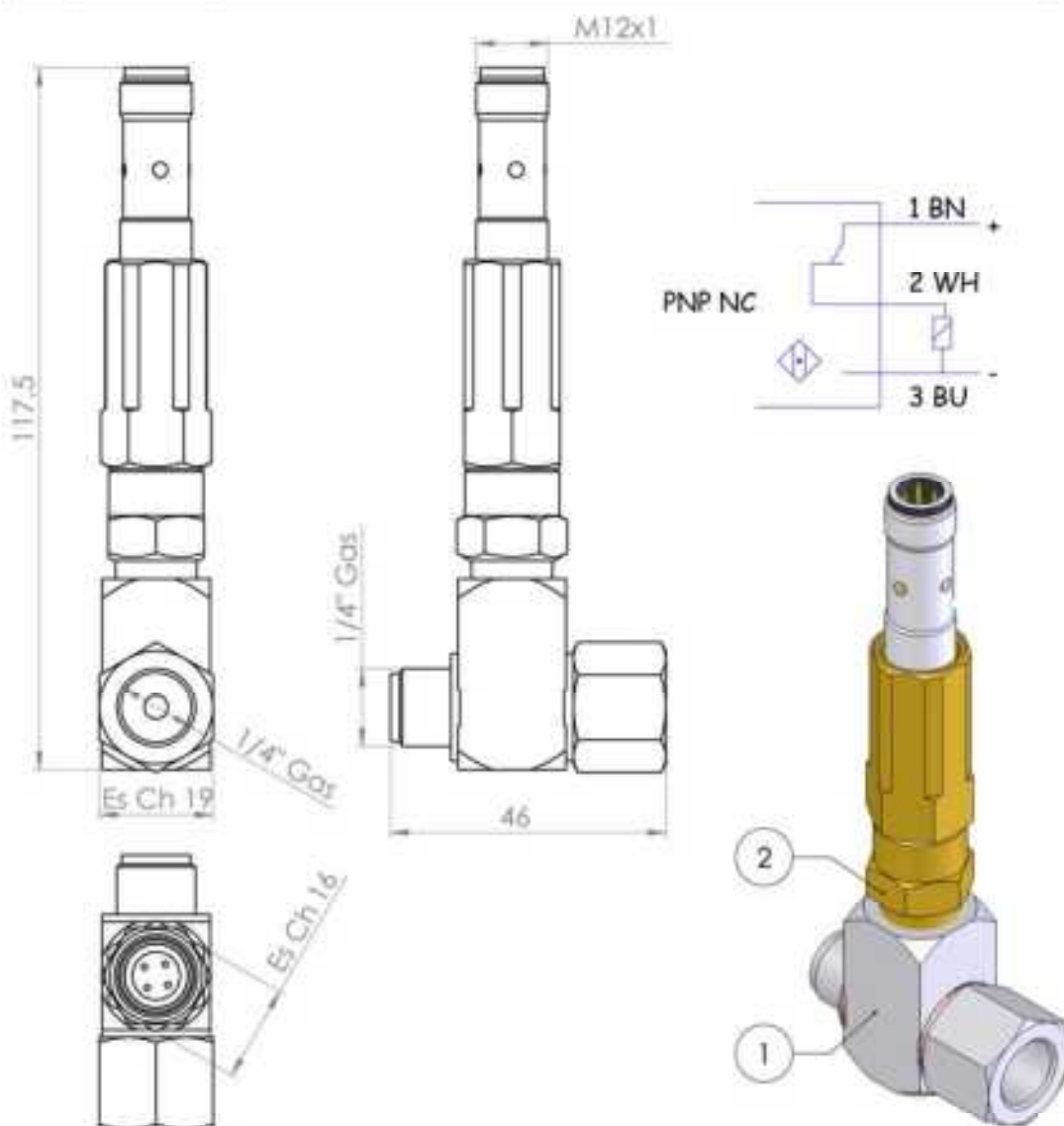
FEATURES

VOLTAGE	6-30 V DC
OUTLET CURRENT	MAX 200 Ma
CURRENT	< 12 Ma
TEMPERATURE RANGE	-25°C +70°C
PROTECTION	IP 67
CASING	STAINLESS STEEL
CABLE	3x0.14 mm ² PVC

ELECTRICAL WIRING



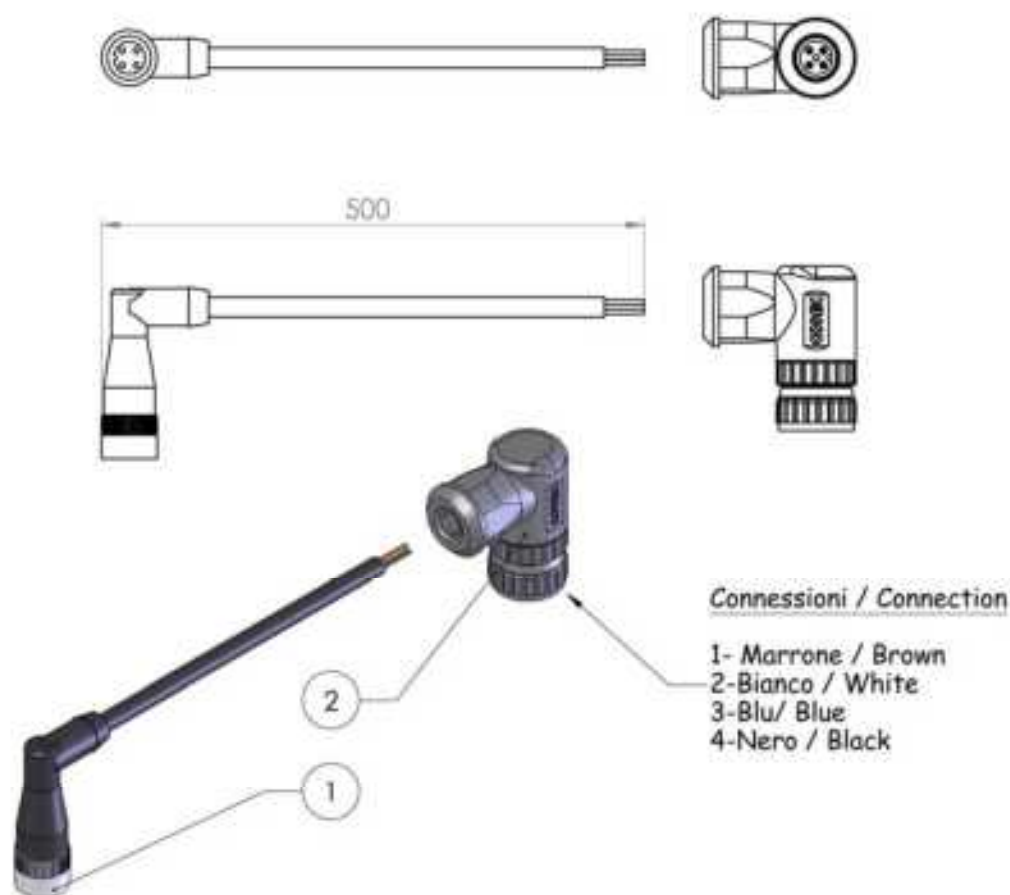
Pos.	Codice/Code	Descrizione / Description	Q.ty
1	A70093186	Snodo 1/4"Gas 2 vie senza valvola by-pass / Banjo connectors 1/4"Gas	1
2	09-712-7	Sensore di sovrappressione induttivo (250bar) / Inductive sensor switch (250 bar)	1



PROIEZIONE / PROJECTION	TOLLERANZE GENERALI / GENERAL TOLERANCE	DATA / DATE	REVISIONE / REVISION
	± 500 ± 100 ± 300 ± 300 ± 1000 FOR:	13-09-12	- ILC -
MATERIALE / MATERIAL	± 0.20 ± 0.30 ± 0.40 H12	ESISTENTE / EXIST	SENZA / WITHOUT
TRATTAMENTO / TREATMENT	TOLLERANZE PARTI IN FUSIONE / TOLERANCE PARTS IN CASTING	BALLARATI	SENZA / WITHOUT
	SPESOREZZA / THICKNESS ± 10% SPESOREZZA / THICKNESS ± 10 mm ± 1 mm	CONTROLLATO / CHECKED	
	VERBA SE 1 AUTOREVISIONE / VERBA SE 1 AUTOREVISIONE		
	VERBA SE 1 AUTOREVISIONE / VERBA SE 1 AUTOREVISIONE		
PESO / WEIGHT 180.40		1:1	
DENOMINAZIONE / DESCRIPTION	CODICE N° / CODE		
Snodo 1/4"Gas 2 vie + Sensore sovrappress. induttivo 250 BAR Banjo connectors + inductive sensor switch 250 BAR	A70093543		



Pos	Codice / Code	Descrizione / Description	Qty
1	A91111353	Connettore M12x1 femmina 90° 4P PVC L=0.5 MT 90° female connection M12x1 4P PVC L=0.5 MT	1
2	A91111352	Connettore 90° M12x1 4P maschio XZCC12FCM40B 90° male connection M12x1 4P XZCC12FCM40B	1



PROIEZIONE / PROJECTION	TOLLERANZE GENERALI / GENERAL TOLERANCE				DATA / DATE	REVISIONE / REVISION
	≤ 100	≤ 500 ± 300	≤ 300 ± 1000	F0H9	14-09-12	- ILC -
MATERIALE / MATERIAL	± 0.20	± 0.30	± 0.40	H12	ESISTENTE / EXISTENT	REVISIONE / REVISION
	TOLLERANZE PARTI / PARTS TOLERANCE				BALLARATI	
	SPESOREZZA / THICKNESS ± 10% SPESOREZZA / THICKNESS ± 10 mm ± 1 mm				CONTRO / CHECK	
TRATTAMENTO / TREATMENT	TOL. DI LAVORAZIONE / WORKING TOLERANCE					
	LAVORAZIONE / WORKING TOLERANCE				SCALARELLA	
PESO / WEIGHT 21.37					1:1.5	
DEGNOMINAZIONE / DESCRIPTION						
Connessione 4P per sovrappressione M12x1 90° femmina-90° maschio L=0.5 MT Connection over pressure 4p M12x1 90° male - 90° female L=0.5 MT						
					CODICE N° / CODE	
					40-CPC-4-03	

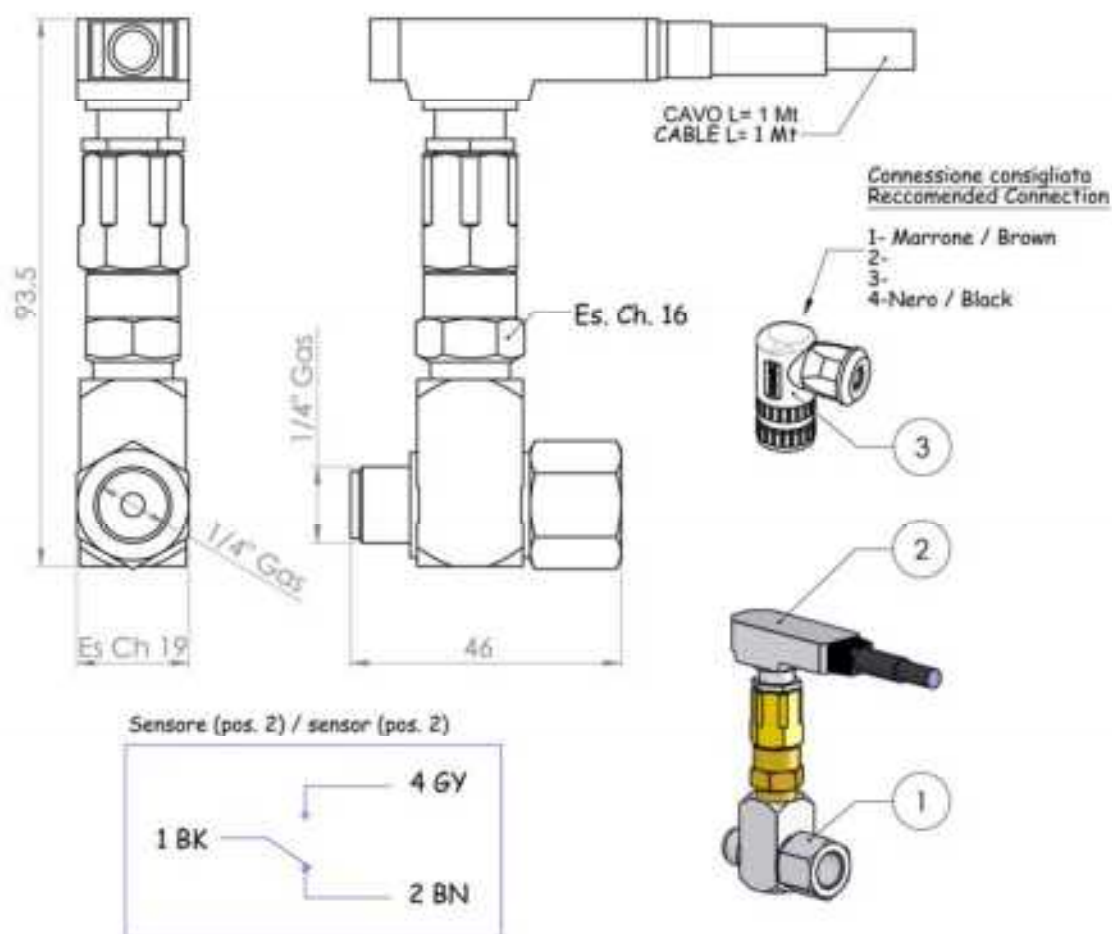


UFFICIO TECNICO
GORLA MINORE



Pos.	Codice / Code	Descrizione / Description	Q.ty
1	A70093186	Snodo 1/4"Gas 2 vie senza valvola by-pass Banjo connectors 1/4" Gas	1
2	09-713-7	Sensore di sovrappressione elettromeccanico (250bar) Electromechanical sensor switch (250 Bar)	1
3	A91111352*	Connettore 90°M12x1 4 poli maschio XZCC12FCM40B 90° male connection M12X1 4 poles XZCC12FCM40B	1

* non cablato / not wired



	PRECISIONE / PRECISION			TOLLERANZE GENERALI / GENERAL TOLERANCE		DATA / DATE		CODICE DESCRIZIONE / CODE DESCRIPTION - ILC -	
	ø 100 ø 100 x 300 ø 300 x 1000 FORO		ø 20 ø 30 ø 40 HT2		13-09-12		IMPORTATO DA: SUBSISTEMI TECNICI (S.T.) A. FERRARO DI LIGGIO 2004 VIA DEI ZAPPALARI 6 07020 GORLA MINORE (PS) - P. 0771 20000000 - 0 40 49 00 2004 - 0 40 49 00 2004 - 0771 20000000		
MATERIALE / MATERIAL		TOLLERANZE PARTI FINITE / FINISHING TOLERANCE				CONTROLLO IN COLA / CHECK		 UFFICIO TECNICO GORLA MINORE	
TRATTAMENTO / TREATMENT		SPESSORE/THICKNESS ± 10% SPESSORE/THICKNESS ± 10 mm ± 1 mm AGG. IN LUBRIFICAZIONE / LUBRICANT TOLERANCE				1:1			
PESO / WEIGHT 180.42		LAVORAZIONE IN MATERIALI ALTERNATIVI / ALTERNATIVE MATERIALS		LAVORAZIONE IN MATERIALI ALTERNATIVI / ALTERNATIVE MATERIALS					
DENOMINAZIONE / DESCRIPTION						CODICE N° / CODE		TOLLERANZA	
Snodo 1/4"Gas 2 vie + Sensore sovrappress. elettromeccanico 250 BAR Banjo connectors + electromechanical sensor switch 250 BAR						A70093544			



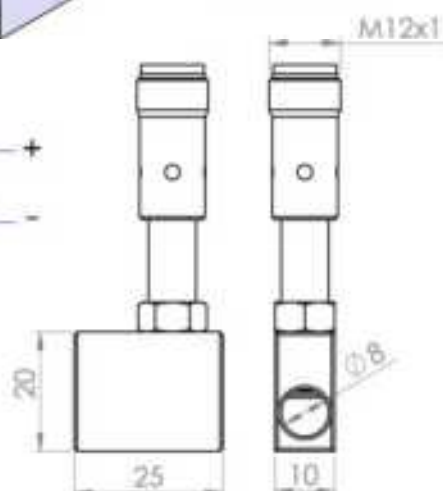
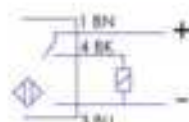
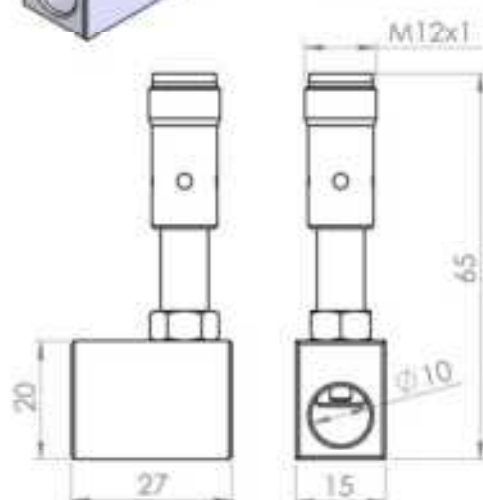
SENSORE INDUTTIVO
CONNETTORE M12x1
DPA-DPM PNP "NO"
COD.49.052.8

PROXIMITY SWITCH
M12X1 CONNECTOR
DPA-DPM PNP "NO"
CODE 49.052.8



SENSORE INDUTTIVO
CONNETTORE M12x1
DPX PNP "NO"
COD.49.052.9

PROXIMITY SWITCH
M12X1 CONNECTOR
DPX PNP "NO"
CODE 49.052.9



CAVO ELETTRICO DA ORDINARE SEPARATAMENTE

ELECTRICAL CABLE TO BE ORDER SEPARATELY



40.CDC.4.05 L= 5 MT
40.CDC.4.10 L= 10 MT
40.CDC.4.15 L= 15 MT

Connessioni / Connection

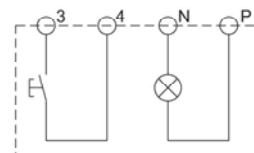
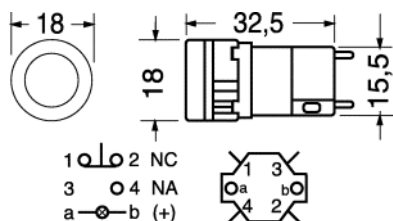
- 1- Marrone / Brown
- 2- Bianco / White
- 3- Blu / Blue
- 4- Nero / Black

PROIEZIONE / PROJECTION	TOLLERANZE GENERALI / GENERAL TOLERANCE	REV. 01	SENZA LOGO E/O INFORMATICA ELLABORAZIONE
	≤ 100 ≥ 100 ≤ 300 ≥ 300 ≤ 1000 FCDP	04/10/12	-ILC-
MATERIALE / MATERIAL	± 0.20 ± 0.30 ± 0.40 H12	BALLARATI	SENZA LOGO E/O INFORMATICA ELLABORAZIONE
TRATTAMENTO / TREATMENT	TOLLERANZE PARTI FUSI / FUSING TOLERANCE	CONTROLLO / CHECK	UFFICIO TECNICO
	SPESORE / THICKNESS ± 10% SPESORE / THICKNESS ± 10 mm ± 1 mm	1:1	GORLA MINORE
PCSD / WEIGHT 21.88	SENZA DI LAVORAZIONE / WORKING TOLERANCE		
DENOMINAZIONE / DESCRIPTION	CODICE N° / CODE		
Controllo di fine ciclo con sensore induttivo PNP NO connettore M12x1	Connettori M12x1		
Proximity switch PNP NO connector M12x1			

PUSH BUTTONS

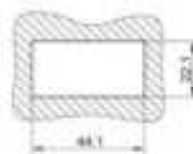
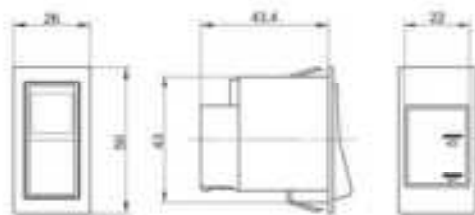
PUSH BUTTON LIGHT

Volt	Colour	Material	Code
12	Green	Plastic	40.PBG.12
24	Green	Plastic	40.PBG.24



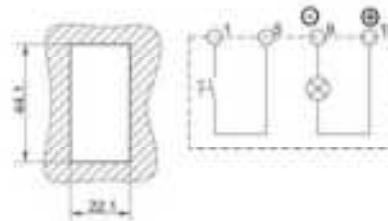
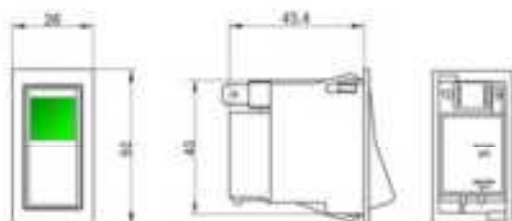
**RESET BUTTON
WITHOUT LAMP**

40.PSB.00



**RESET BUTTON
WITH LAMP**

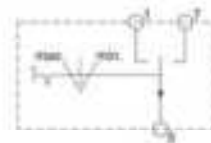
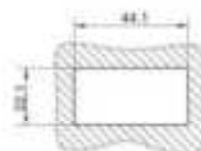
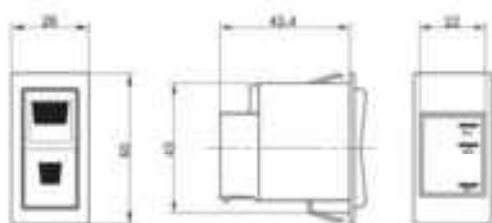
Volt	Colour	Material	Code
12	Green	Plastic	40.PSG.12
24	Green	Plastic	40.PSG.24
12	Red	Plastic	40.PSR.12
24	Red	Plastic	40.PSR.24



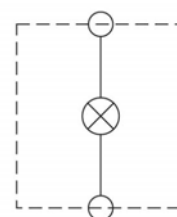
PUSH BUTTONS

SELECTIVE LUBE BUTTON

40.COS.00



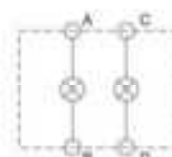
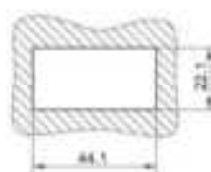
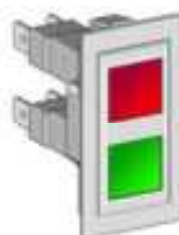
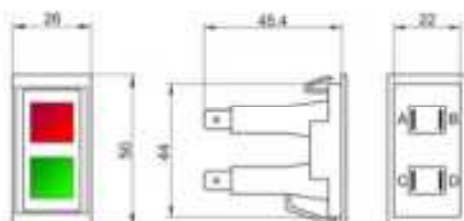
SIGNAL LAMP



Volt	Colour	Material	Code
12	Green	Plastic	40.SLG.12
24	Green	Plastic	40.SLG.24
12	Red	Plastic	40.SLR.12
24	Red	Plastic	40.SLR.24

SIGNAL LAMP

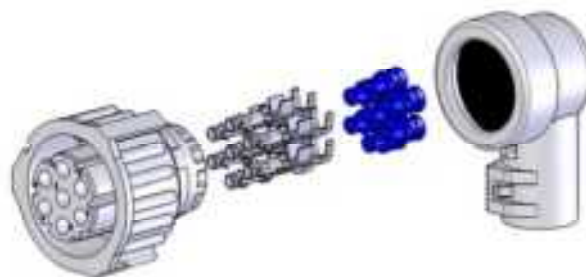
Volt	Material	Code
12	Plastic	40.COL.12
24	Plastic	40.COL.24





WIRES

ILC-MAX pump is supplied complete of 7-poles electrical connector.



A91.111327

N.B. Included in the kit are 3 types of pads for different diameters and unused contacts.

*n. 7 code A91.111315
wires from 1.2 to 2.1 mm²*

*n. 7 code A91.111314
wires from 2.2 to 3 mm²*

*n. 7 code A91.111310
to plug the hole if a contact is not used*



We can supply electrical connector complete of 3 wires (1 mm²) cable

code	L
40.CBL.3.05	5 M
40.CBL.3.10	10 M
40.CBL.3.15	15 M



As alternative, we can supply electrical connector complete of 7 wires (1 mm²) cable

code	L
40.CBL.7.05	5 M
40.CBL.7.10	10 M
40.CBL.7.15	15 M





WIRES

General conditions of connection

	Nominal voltage	Power absorption (load-dependent)	Power absorption (max.)	Pump starting current (max.)	Preconnected fuse (max.)
Vehicles application	24 V AC/DC	1,25 A ²⁾	< 2,5 A	4,5 A	3 A ³⁾ ⁴⁾
	12 V DC	2,4 A ²⁾	< 5 A	9 A	5 A ³⁾ ⁴⁾
Industrial application	24 V AC/DC ¹⁾	1,25 A ²⁾	< 2,5 A	4,5 A	4 A ⁴⁾
	12 V DC ¹⁾	2,4 A ²⁾	< 5 A	9 A	6 A ⁴⁾
	115 V AC	0,25 A ²⁾	< 0,5 A	1 A	1 A ⁴⁾
	230 V AC	0,125 A ²⁾	< 0,25 A	1 A	1 A ⁴⁾

¹⁾ Protective measures to applied for operation according to the intended purpose:

Function-specific extra-low voltage with safe circuit-breaking
Protective Extra Low Voltage (PELV)

Standards: EN60204 part I: 1992/IEC204-1:1992, amended by
DIN VDE 0100 part 410 / IEC 364-4-41:1992

²⁾ Typical value for ambient temperature 25 °C and operating pressure 150 bar

³⁾ Circuitbreaker acc. to DIN 72581 T.3

⁴⁾ Conductor: cross-section 1,5 mm², lenght ≤ 12 M

Type of IP enclosure

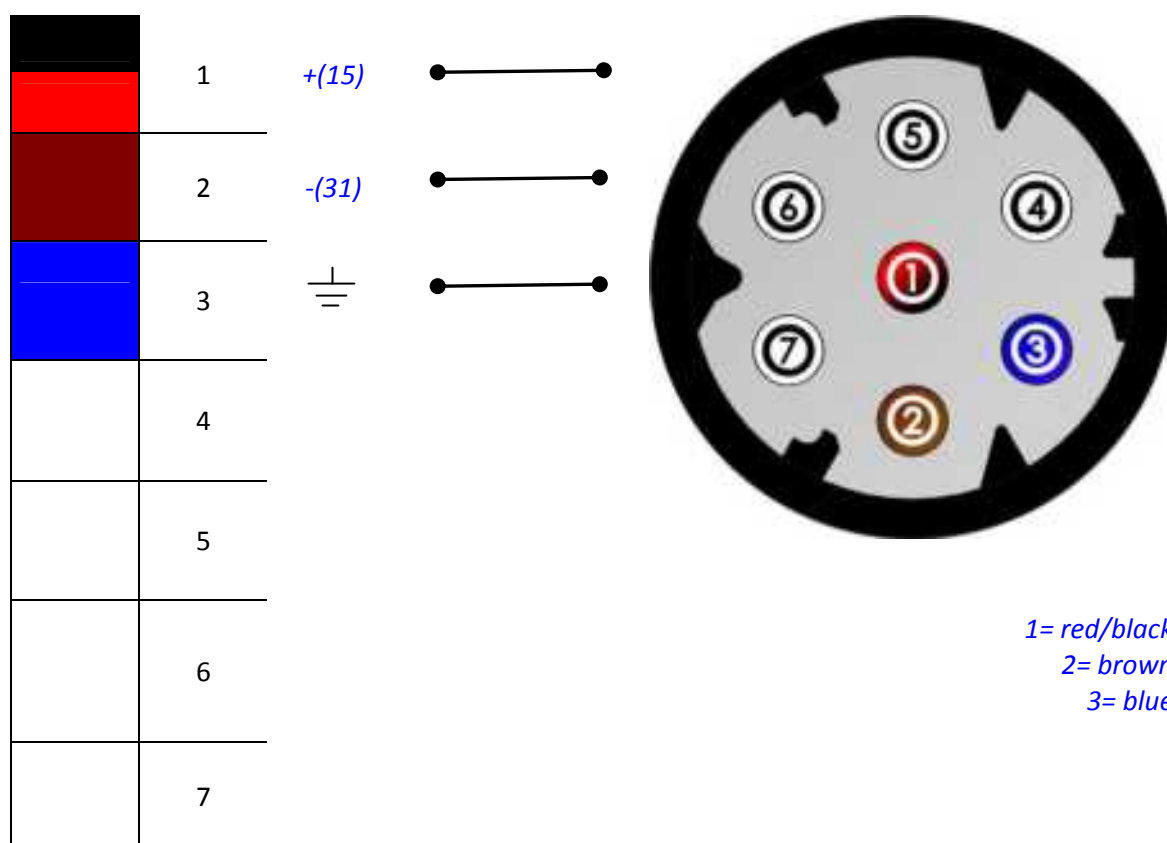
Pump IP5K6K

Connector bayonet – plug IP6K9K

M12x1 plug IP67

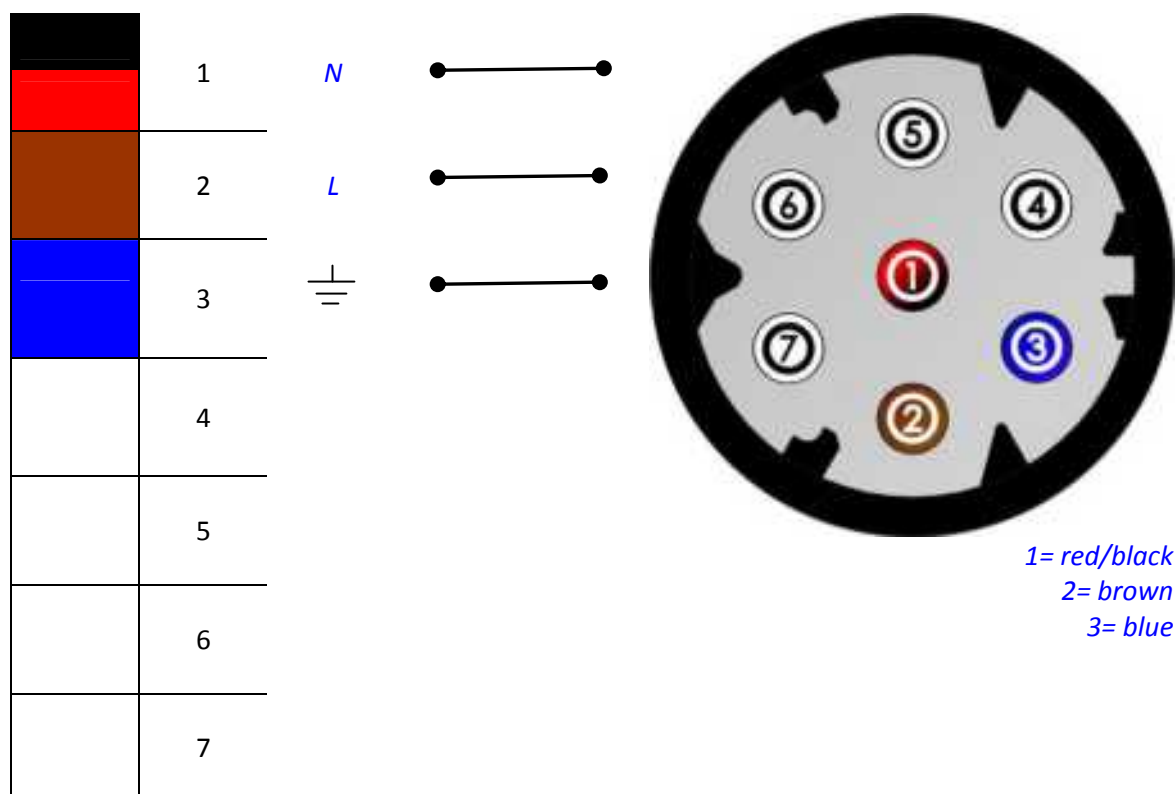


WIRES
12-24 V DC
WITHOUT TIMER
3-poles cable



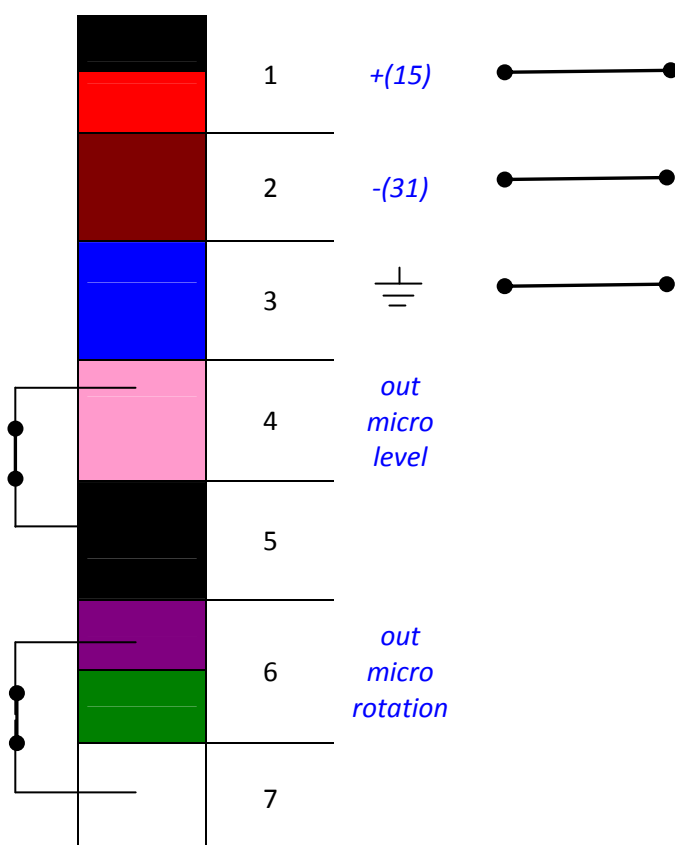


WIRES
24/115/230 V AC
WITHOUT TIMER
3-poles cable





WIRES
12-24 V DC
WITHOUT TIMER
3-poles cable

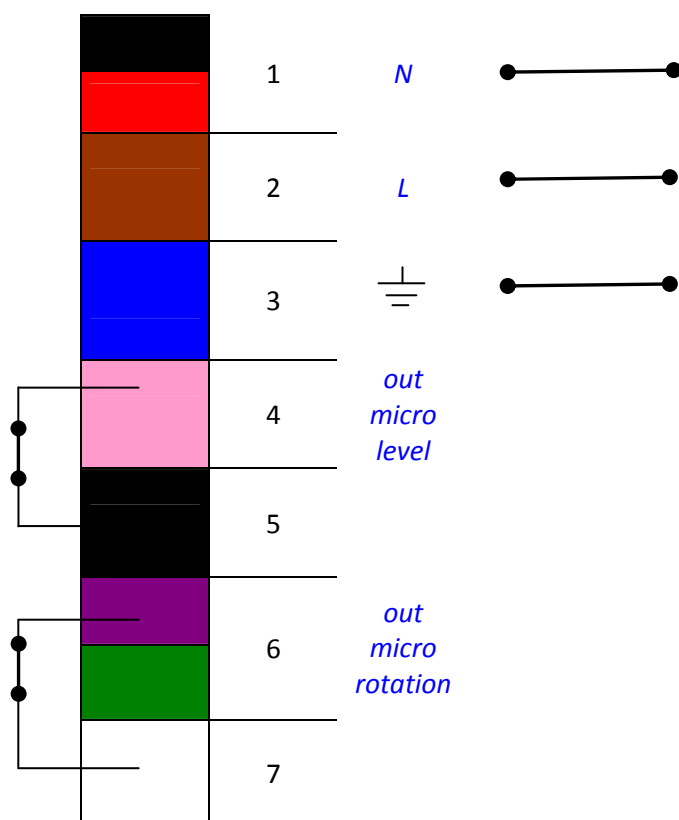


1= red/black
2= brown
3= blue
4=pink
5=black
6=green/purple
7=white

Contact between 4 and 5 is closed; while reservoir is emptying from the lubricant, we will have a **pulse at rope**, that can be controlled by an external PLC to report a lubricant leakage alarm.
Contact between 6 and 7 opens at every rope.
When **pulses stop** for more than 20", external PLC must report rotation alarm.



WIRES
24/115/230 V AC
WITHOUT TIMER
7-poles cable



1= red/black
2= brown
3= blue
4=pink
5=black
6=green/purple
7=white

Contact between 4 and 5 is closed; while reservoir is emptying from the lubricant, we will have a **pulse at rope**, that can be controlled by an external PLC to report a lubricant leakage alarm.

Contact between 6 and 7 opens at every rope.

When **pulses stop** for more than 20", external PLC must report rotation alarm.

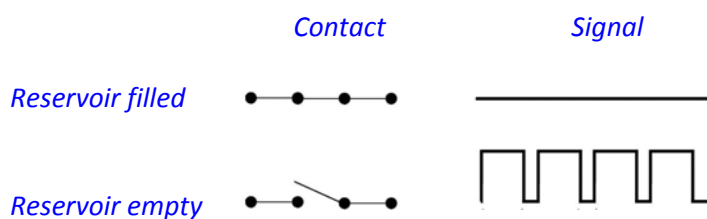
GREASE LOW LEVEL SWITCH WITHOUT TIMER



Low level switch sensor is integrated in the bottom of the reservoir. A floating magnet mounted on the spatulator is kept in the small internal circumference when the reservoir is full and the spatulator rotates (Pic. 1).

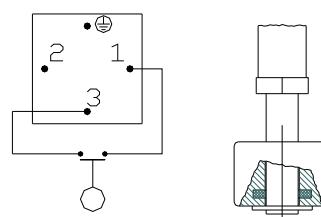


When there's no grease the magnet ropes in the external circumference, passing on the low level sensor. A pulse (from close to open) is created at every revolution (Pic. 2).



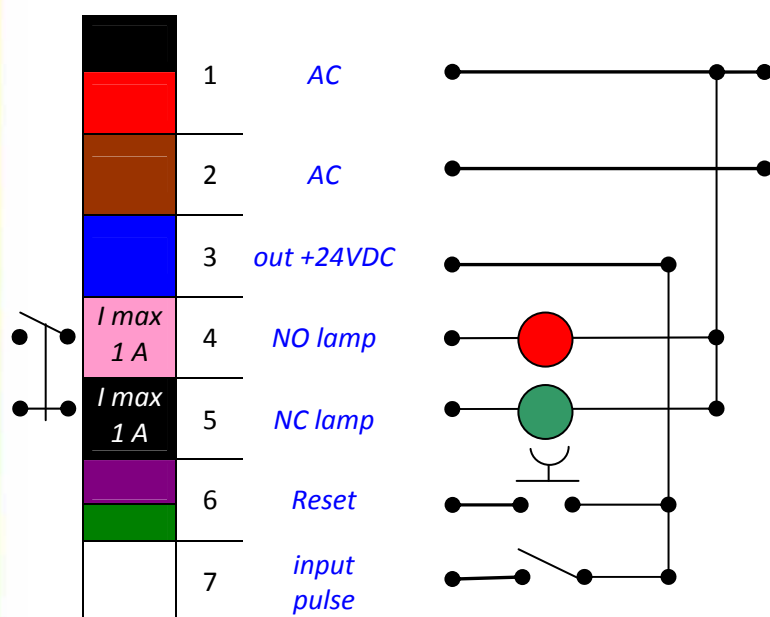
OIL LOW LEVEL SWITCH WITHOUT TIMER

Contact opens when lubricant is missing.





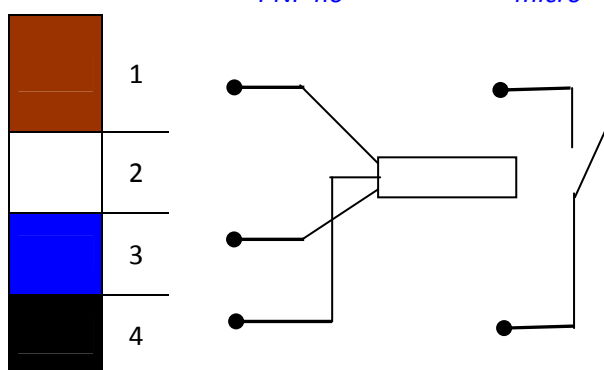
WIRES
24 V AC
WITH TIMER



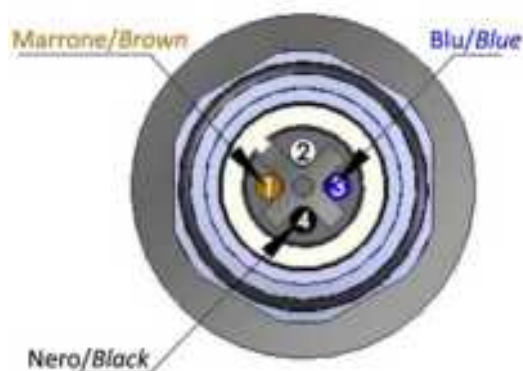
- 1= red/black
- 2= brown
- 3= blue
- 4=pink
- 5=black
- 6=green/purple
- 7=white

inductive sensor
PNP no

micro

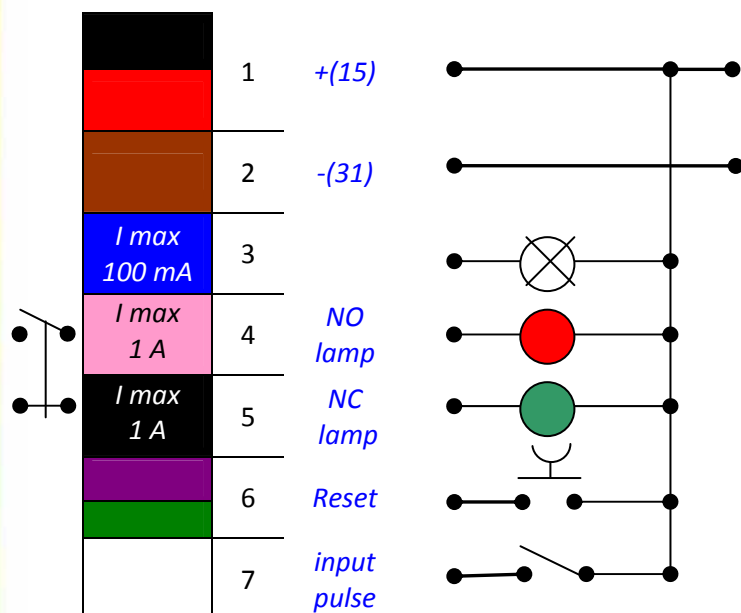


Seguire questo schema per collegare un controllo posizionato sul distributore progressivo o all'uscita della pompa





WIRES
12/24 V DC
WITH TIMER

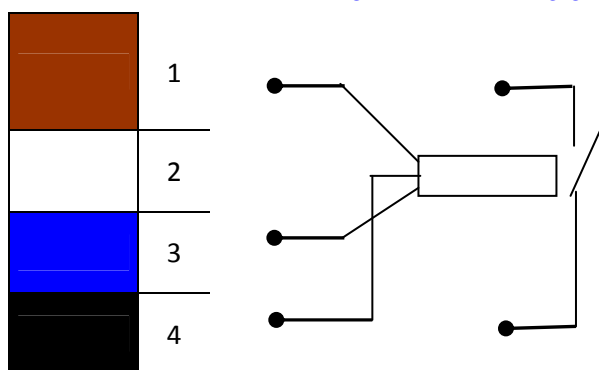


Lamp linked to 3 contact is **fixed on** during working time or when reset button has been pushed and **lamps** when there's an alarm

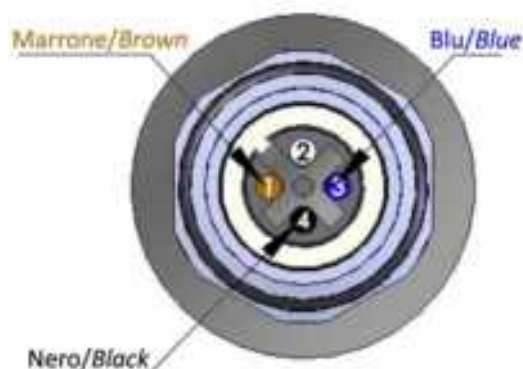
1= red/black
2= brown
3= blue
4=pink
5=black
6=green/purple
7=white

inductive sensor
PNP no

micro

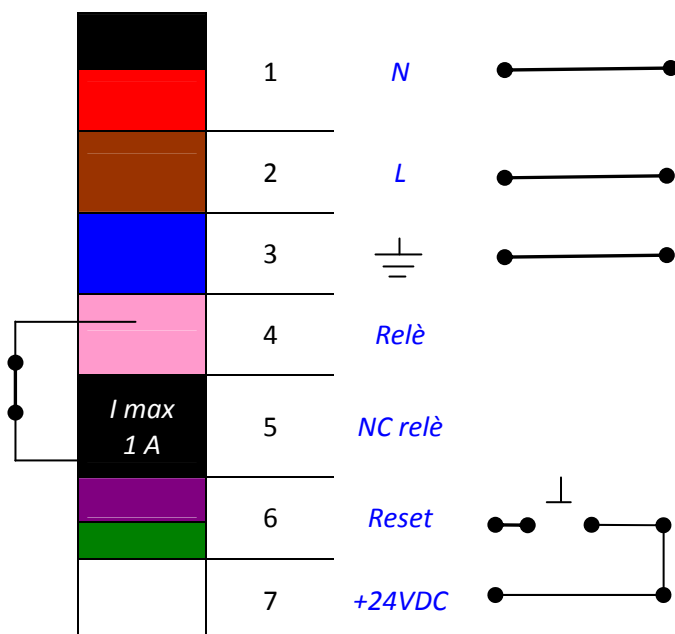


Follow this scheme if a control is installed on the progressive divider or at the outlet of the pump





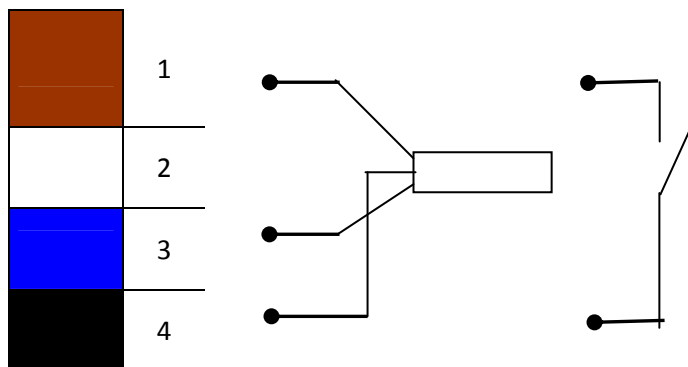
WIRES
115/230 V AC
WITH TIMER



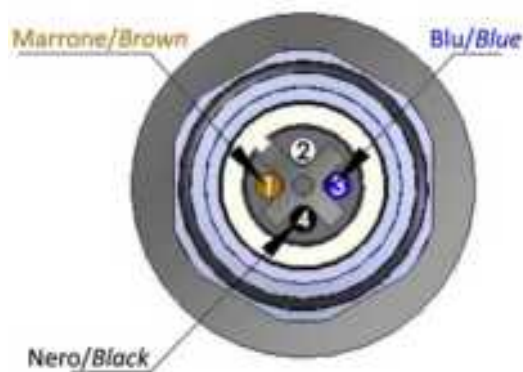
- 1= red/black
- 2= brown
- 3= blue
- 4=pink
- 5=black
- 6=green/purple
- 7=white

inductive sensor
PNP no

micro

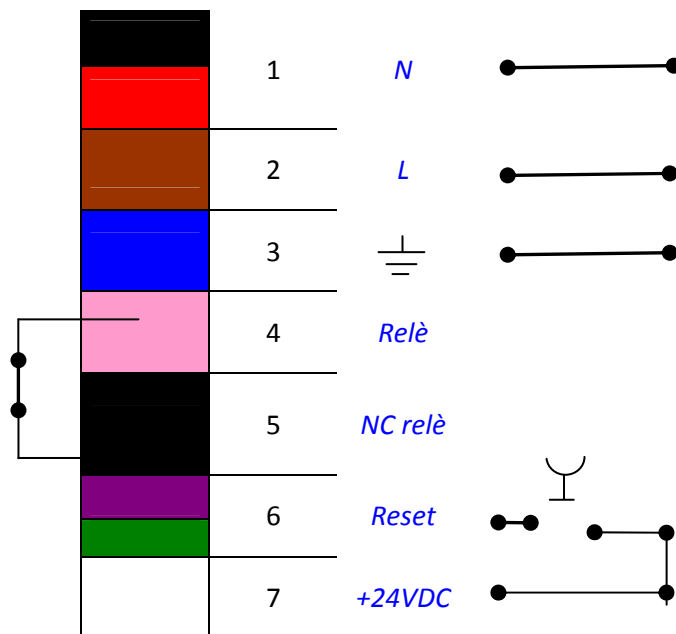


Follow this scheme if a control is
installed on the progressive divider or at
the outlet of the pump





*SPECIAL PUMPS WIRES
115/230 V AC
WITH TIMER
PULSES PAUSE TIME AND
CONTROL ON THE PROGRESSIVE DIVIDER*



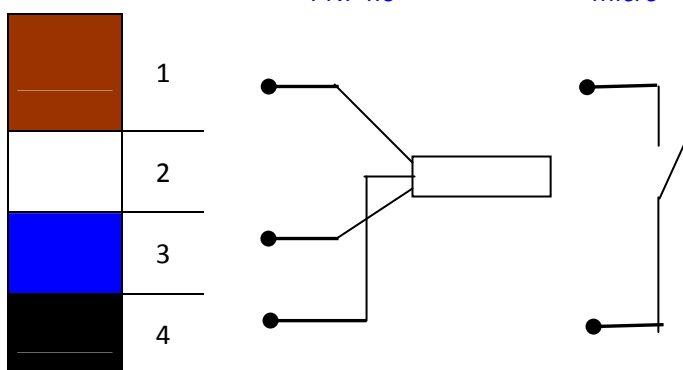
1= red/black
2= brown
3= blue
4= pink
5= black
6= green/purple
7= white

control from progressive divider CN1

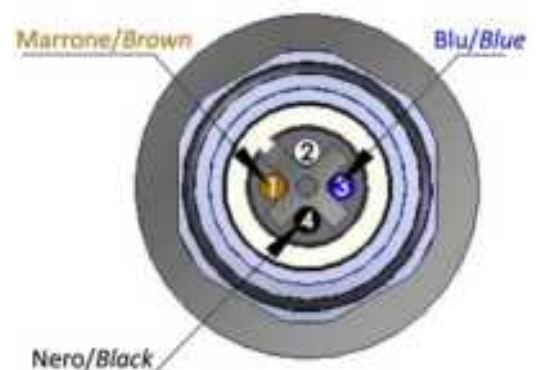
inductive sensor

PNP no

micro



*Follow this scheme if a control is
installed on the progressive divider or at
the outlet of the pump*



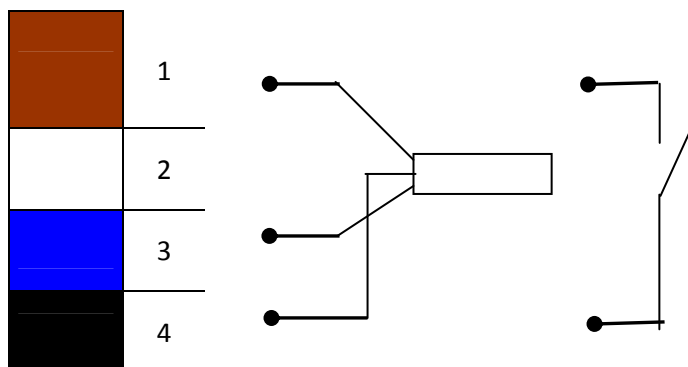


to send pulses CN2

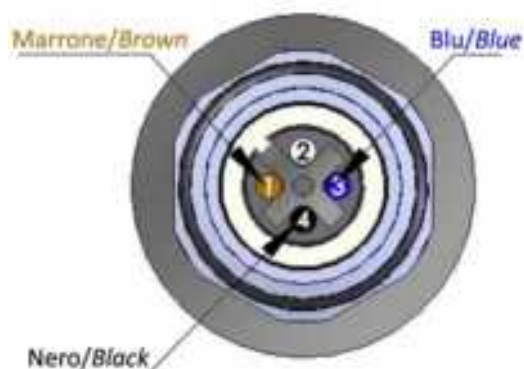
inductive sensor

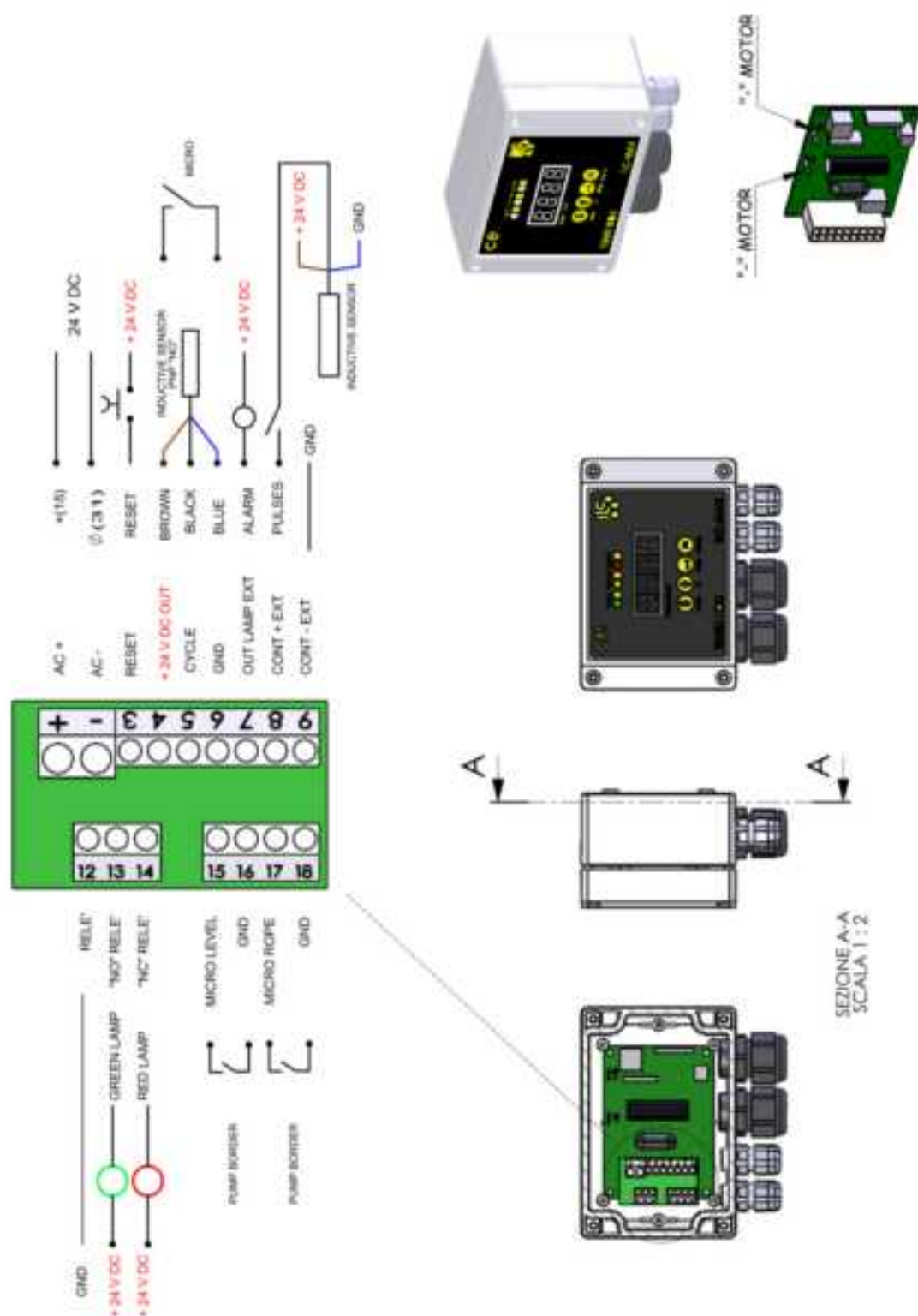
PNP no

micro



*Follow this scheme if a control is
installed on the progressive divider or at
the outlet of the pump*





ACCESSORIES

INTERNAL TIMER

40.CCT.AC.00 – 24 V AC

40.CCT.DC.00 – 12/24 V DC



TECNICAL FEATURES

Tension: 9 – 30 V DC

Absorption: 12 V DC 40 mA
24 V DC 30 mA

Temperature: from -20 to 80 °C

EXTERNAL TIMER

40.BCT.BT.AC – 24 V AC

40.BCT.BT.DC – 12/24 V DC

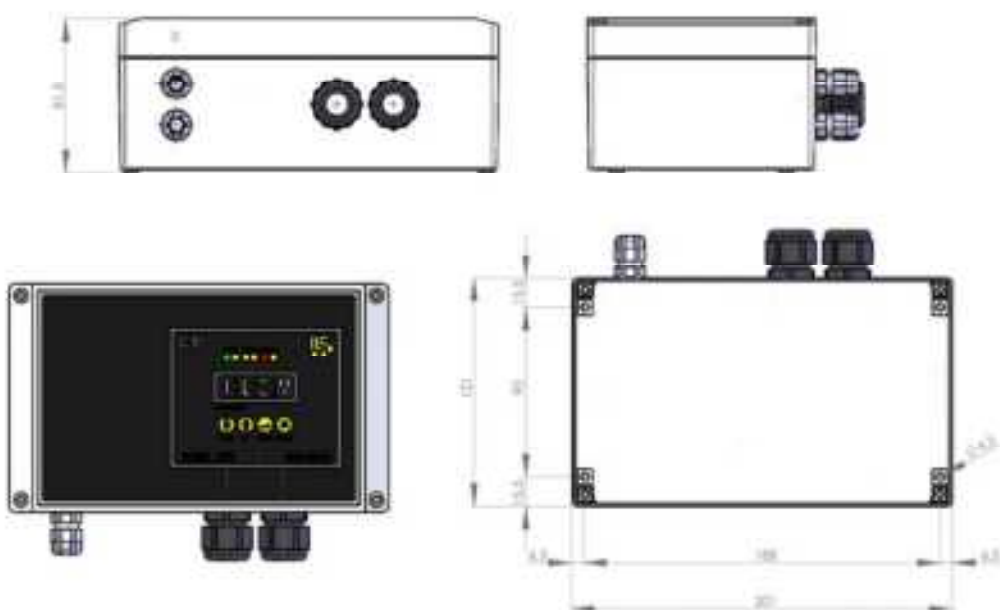


TECNICAL FEATURES

Tension: 9 – 30 V DC

Absorption: 12 V DC 40 mA
24 V DC 30 mA

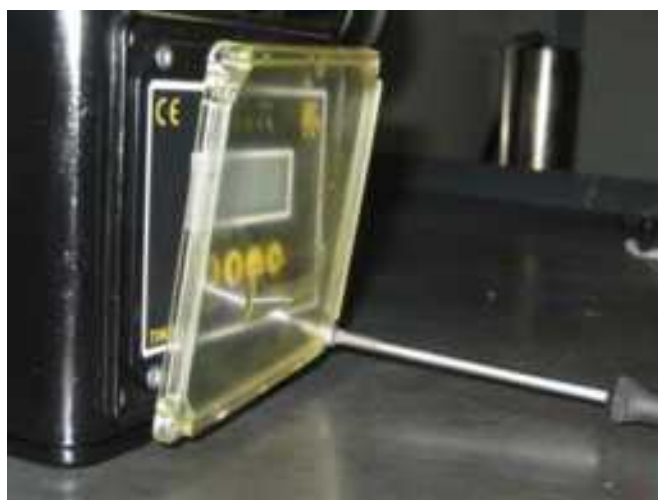
Temperature: from -20 to 80 °C





TIMER ADJUSTMENT

Remove transparent cover unscrewing 4 screws to access timer as shown in the following pictures.





TIMER ADJUSTEMENT

Basic settings

When powered, timer runs a lamp test while displays [8.8.8.8]. Then is displayed installed software version [ex. 03.10] and, after shown model [ILC.M] and about 1 second of pause [---], timer runs **PAUSE-WORK run mode** (you can have either one of the two phases, depending on stop during the testing); other functions will be off (0).

Default settings: Pause 2 minutes, Work 30 seconds.

These are minimum setting for PAUSE-WORK cycle.



To set Pause and Work, press for at least 3 seconds. In this way, you will run **edit mode** and will be displayed [E-CM]. Press 1 time to position [E-FU] to select functioning mode:

PL -> Pause-Work [PL-P e PL-L]

IL -> Pulse-Work [IL-P e IL-L]

PC -> Pause-Rotations [PC-P e PC-L]

IC -> Pulse-Rotations [IC-P e IC-L]

If, for example, has been chosen [F-PL], press 1 time to position [E-PM] and press . To set Pause time (minutes) use arrows and . Once Pause minutes are regulated, press to come back to the previous menu.



In the menu, by pressing will be displayed [E-PH], setting of Pause time (hours). Press and set Pause time (hours) by using arrows and . Once Pause hours are regulated, press to come back to the previous menu.

To set Working time (seconds), press . Will be displayed [E-LS]. Press and set Working time (seconds) by using arrows and . Once Working seconds are regulated, press to come back to the previous menu.



By pressing will be displayed Working time (minutes) [E-LM]. Press and set Working time (minutes) by using arrows and . Once Working minutes are regulated, press to come back to the previous menu.

In this moment timer is setted following your own needs. Press for at least 3 seconds to go out **edit mode** and come back to **run mode**. Time is operating, and will be displayed PAUSE-WORK cycle.



If timer doesn't receive input for 2 minutes, the display will shut off to save energy. To light the display on again press .



TIMER ADJUSTEMENT

Advanced settings

When powered, timer runs a lamp test while displays [8.8.8.8]. Then is displayed installed software version [ex. 03.10] and, after shown model [ILC.M] and about 1 second of pause [---], timer runs **PAUSE-WORK run mode** (you can have either one of the two phases, depending on stop during the testing); other functions will be off (0).

Default settings: Pause 2 minutes, Work 30 seconds.

These are minimum setting for PAUSE-WORK cycle.



- RUN MODE -

Timer two different mode: **run mode** and **edit mode**. In **RUN MODE** timer has 4 functioning modes:

PL -> **Pause-Work** [PL-P e PL-L]

IL -> **Pulse-Work** [IL-P e IL-L]

PC -> **Pause-Rotations** [PC-P e PC-L]

IC -> **Pulse-Rotations** [IC-P e IC-L]

FUN.	PAUSE RANGE	WORKING RANGE
PL	002M-999M minutes 000H-999H hours Minimum pause time: 2 min Total time will be the sum of hours and minutes	030S-999S seconds 000M-999M minutes Minimum working time: 30 sec Total time will be the sum of minutes and seconds
IL	2-9999 pulses	030S-999S seconds 000M-999M minutes Minimum working time: 30 sec Total time will be the sum of minutes and seconds
PC	002M-999M minutes 000H-999H hours Minimum pause time: 2 min Total time will be the sum of hours and minutes	9-999 ropes
IC	2-9999 pulses	9-999 ropes





Scrolling the **main menu** with will be displayed:
 [025.0] operating state (ex. remain 25 sec of work)
 [P24.0] timer tension supply (ex. 24V)
 [H35.0] internal timer temperature (ex. 35°C)
 [PL-L] functioning mode (ex. working in pause-work)
 [F-00] allarm (ex. no alarm)



OPERATING STATE

[042M] in PL-L mode it is remaining working time in minutes (ex. 42 min).
 Without M letter number states remaining seconds (during the last minute will be
 displayed 052.0 = 52 sec)

[035H] in PL-P mode it is remaining pause time in hours (ex. 35 hours). During
 last hour will be displayed minutes and during last minute will be displayed
 seconds

[054M] in IL-L mode it is remaining working time in minutes. during the last
 minute will be displayed seconds

[1234] in IL-P mode it is number of remaining external pulses to switch to work
 (ex. 1234 pulses)

[-036] in PC-L mode it is number of remaining ropes (ex. 36 ropes)

[041H] in PC-P mode it is remaining pause time in hours.. During last hour will
 be displayed minutes and during last minute will be displayed seconds

[-011] in IC-L mode it is number of remaining ropes

[1234] in IC-P mode it is number of remaining external pulses to switch to work



ALARMS

[F-00] no alarm

[1.1AC] cycle alarm

[1.1AP] overpressure alarm

[1.1AL] low level alarm

[1.1AM] rotation alarm

[1.1AH] high temperature alarm

[1.1AU] low tension alarm

[1.1AS] status driver alarm





- EDIT MODE -

Edit mode allows to modify control parameters. In run mode press for at least 3 seconds to switch to edit mode (run mode will be stopped). To scroll in the main menu use .

[E-CM] Menu Version (timer is default supplied in base mode)

[E-FU] Functioning mode

[E-PM] Pause time in min *

[E-PH] Pause time in hours *

[E-LM] Working time in min *

[E-LS] Working time in sec *

[E-IP] Number of pause pulses *

[E-CL] Number of ropes *

[E-AE] Reset or Extra cycle

[E-PL] Pre Lube

[E-AC] Cycle Alarm

[E-AP] Overpressure Alarm

[E-AL] Low level Alarm

[E-AM] Rotation Alarm

[E-AH] Temperature Alarm

[E-AU] Low tension Alarm

[E-AS] Status driver Alarm

* Parameters with asterisk are not all in the Main Menu. They will be displayed depending on Functioning Mode (default FUPL)

Ex.:

[E-PM] Pause time in min

[E-PH] Pause time in hours

[E-LM] Working time in min

[E-LS] Working time in sec

Timer is default supplied with all functions [0 = disabled]. To modify a parameter select it, press and use and . Once the parameter is modified, press to come back to the Main Menu.

When in **edit mode**, if no button is pushed for 2 minutes, timer will come back to run mode without saving changes.

To save changes and come back to **run mode** push button for 3 seconds.



Green led fixed: pump is on **pause**



Yellow led fixes: pump is on **work**



Red led blinking: timer is on **alarm**



Green and Yellow led blinking: timer is on **edit mode**



Green, Yellow and Red led blinking: pump is **blocked**.



To enter Complete Menu select (E-CM), press (M) and use ↓ or ↑ to select (CM-F). Press (M) to confirm. CM-B –Base Menu: it will be possible to choose only the Functioning Mode and regulate parameters (pause– work) CM-F –Complete Menu: it will be possible to activate all timer functions, with alarms e prelube	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
To enter in functioning mode select E-FU, press (M) and use ↓ or ↑ FU.PL –pause and working time intervals FU.IL –work is a time interval, pause is an external pulses counting FU.PC –working time is number of ropes, pause is a time interval FU.IC – working time is number of ropes, pause is an external pulses counting When functioning mode is selected, press (M) to confirm.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
Functioning mode FU.PL E-PM PAUSE TIME IN MIN E-PH PAUSE TIME IN ORE Changing these parameters will change pause time. Select voice to modify, press (M) and use ↓ or ↑ to decrease or increase the displayed value. At the end, confirm by pressing (M) Repeat these operations for: E-LS WORKIN TIME IN SEC E-LM WORKING TIME IN MIN Changing these parameters will change working time.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	



Functioning mode FU.IL E-LS WORKIN TIME IN SEC E-LM WORKING TIME IN MIN Changing these parameters will change working time. Select voice to modify, press and use or to decrease or increase the displayed value. At the end, confirm by pressing . Repeat these operations for: E-IP NUMBER OF PAUSE PULSES Changing these parameters will change pump pause.	[E-CM] Menu Version [E-FU] Functioning mode [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
Functioning mode FU.PC E-PM PAUSE TIME IN MIN E-PH PAUSE TIME IN ORE Changing these parameters will change pause time. Select voice to modify, press and use or to decrease or increase the displayed value. At the end, confirm by pressing . Repeat these operations for: E-CL NUMBER OF ROPES Changing these parameters will change pump work.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
Functioning mode FU.IC E-IP NUMBER OF PAUSE PULSES Changing these parameters will change pump pause. Select voice to modify, press and use or to decrease or increase the displayed value. At the end, confirm by pressing . Repeat these operations for: E-CL NUMBER OF ROPES Changing these parameters will change pump work.	[E-CM] Menu Version [E-FU] Functioning mode [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	



Enable or disable RESET/EXTRA CYCLE function selecting **E-AE**, pressing and use or . At the end, confirm by pressing

(AE-0) = Off

(AE-1) = On

Timer has connections to remote push button/reset function made by button in run mode. When enabled (**AE-1**) every time you push the button you will reset alarm signals and restart the work. If there's a button short circuit will be displayed alarm [1.1AE] without consequences.

[E-CM] Menu Version
[E-FU] Functioning mode
[E-PM] Pause in min
[E-PH] Pause in hours
[E-LM] Work in min
[E-LS] Work in sec
[E-IP] Pause pulses
[E-CL] Ropes of work
[E-AE] Reset
[E-PL] Pre Lube
[E-AC] Cycle Alarm
[E-AP] Overpressure Alarm
[E-AL] Level Alarm
[E-AM] Rope Alarm
[E-AH] Temperature Alarm
[E-AU] Low tension Alarm
[E-AS] Driver Alarm



Enable PRELUBE or MEMORY selecting **E-PL**, pressing and use or . At the end, confirm by pressing

(PL-0) = Memory

(PL-1) = Prelube

(**PL-1**): at powering the pump will start with a lubrication cycle (working time).

(**PL-0**): at powering the pump will start from the point it has stopped (memory).

[E-CM] Menu Version
[E-FU] Functioning mode
[E-PM] Pause in min
[E-PH] Pause in hours
[E-LM] Work in min
[E-LS] Work in sec
[E-IP] Pause pulses
[E-CL] Ropes of work
[E-AE] Reset
[E-PL] Pre Lube
[E-AC] Cycle Alarm
[E-AP] Overpressure Alarm
[E-AL] Level Alarm
[E-AM] Rope Alarm
[E-AH] Temperature Alarm
[E-AU] Low tension Alarm
[E-AS] Driver Alarm



Enable or disable CYCLE ALARM selecting **E-AC**, pressing and use or . At the end, confirm by pressing

(AC-0) = Off

(AC-1) = On

When enabled (**AC-1**), you can check the work of a progressive system linked to the pump and complete of micro switch. If there's an alarm, you will see red led lamping and displayed: [1.1AC] pumps will do 3 immediate and consecutive cycles of work. After the third cycle, if alarm persists, pump will stop working.

[E-CM] Menu Version
[E-FU] Functioning mode
[E-PM] Pause in min
[E-PH] Pause in hours
[E-LM] Work in min
[E-LS] Work in sec
[E-IP] Pause pulses
[E-CL] Ropes of work
[E-AE] Reset
[E-PL] Pre Lube
[E-AC] Cycle Alarm
[E-AP] Overpressure Alarm
[E-AL] Level Alarm
[E-AM] Rope Alarm
[E-AH] Temperature Alarm
[E-AU] Low tension Alarm
[E-AS] Driver Alarm



CYCLE ALARM CANNOT BE ENABLED TOGETHER WITH OVERPRESSURE ALARM: THEY WILL EXCLUDE EACH OTHER.



Enable or disable OVERPRESSURE ALARM selecting E-AP, pressing  and use  or . At the end, confirm by pressing . (AP-0) = Off (AP-1) = On When enabled (AP-1), you can check maximum pressure of the pump. If the pressure is over the established value will be displayed: [1.1AP] and pump will stop working.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpress. Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	  CYCLE ALARM CANNOT BE ENABLED TOGETHER WITH OVERPRESSURE ALARM: THEY WILL EXCLUDE EACH OTHER.
Enable or disable LOW LEVEL ALARM selecting E-AL, pressing  and use  or . At the end, confirm by pressing . (AL-0) = Off (AL-1) = On When enabled (AL-1), if sensor send a low level lubricant signal, timer will display: [1.1AL] while red led  will lamp. This alarm doesn't stop the pump.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
Enable or disable ROPES ALARM selecting E-AM, pressing  and use  or . At the end, confirm by pressing . (AM-0) = Off (AM-1) = On When enabled (AM-1), if rpm are inferior to 9, timer will display: [1.1AM] and pump will block..	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	



Enable or disable TEMPERATURE ALARM selecting E-AH, pressing  and use  or . At the end, confirm by pressing . (AH-0) = Off (AH-1) = On When enabled (AH-1), if timer reaches 80°C, will be displayed: [1.1AH] you will see red led  lamping and pump will stop working until timer will be under 70°C	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperat. Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
Enable or disable LOW TENSION ALARM selecting E-AU, pressing  and use  or . At the end, confirm by pressing . (AU-0) = Off (AU-1) = On When enabled (AU-1), if tension goes under 9V, timer will be in alarm and will be displayed: [1.1AU], and red led  will lamp. If tension go down more pump will power off.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	
Enable or disable STATUS DRIVER ALARM selecting E-AS, pressing  and use  or . At the end, confirm by pressing . (AS-0) = Off (AS-1) = On When enabled (AS-1), if a communication problem between motor and timer happens, timer will have an alarm and will display: [1.1AS], pump will keep on working and red led  will lamp.	[E-CM] Menu Version [E-FU] Functioning mode [E-PM] Pause in min [E-PH] Pause in hours [E-LM] Work in min [E-LS] Work in sec [E-IP] Pause pulses [E-CL] Ropes of work [E-AE] Reset [E-PL] Pre Lube [E-AC] Cycle Alarm [E-AP] Overpressure Alarm [E-AL] Level Alarm [E-AM] Rope Alarm [E-AH] Temperature Alarm [E-AU] Low tension Alarm [E-AS] Driver Alarm	



 If there will be more alarms, will be displayed how many and pressing  you can check which are the alarms.. In the example [1.2AC] first is the number of the alarm displayed, second is how many alarms, last two are the code of the alarm. To display the second alarm use 	In run mode: [025.0] operat. state [P24.0] timer tension [H35.0] timer tempera. [PL-L] function. mode [1.2AC] alarm	
--	--	---



TROUBLESHOOTING

Basically, the only maintenance required is to refill reservoir in good time using a pump. However, check regularly that lubricant is actually reaching all lubrication points. Similarly, check the main and feed lines for eventual damages. If necessary, repair them. Add these inspections together with other regular checks of the vehicle.

FAULT: PUMP MOTOR DOES NOT RUN

CAUSE:

VOLTAGE SUPPLY INTERRUPTED

REMEDY:

CHECK VOLTAGE SUPPLY OR FUSES. IF NECESSARY, RECTIFY THE FAULT AND REPLACE FUSES

CAUSE:

VOLTAGE SUPPLY TO PRINTED-CIRCUIT BOARD INTERRUPTED

REMEDY:

CHECK THE LINE LEADING FROM THE FUSES TO THE CONTROL UNIT AND PUMP PLUG

CAUSE:

PRINTED-CIRCUIT BOARD DEFECTIVE

REMEDY:

REPLACE PRINTED-CIRCUIT BOARD

CAUSE:

GEARMOTOR DEFECTIVE

REMEDY:

REPLACE GEARMOTOR

FAULT: PUMP DOES NOT DELIVERY THE LUBRICANT

CAUSE:

RESERVOIR EMPTY

REMEDY:

REFILL RESERVOIR WITH CLEAN GREASE AND MAKE PUMP RUN UNTIL LUBRICANT EMERGES FREE OF AIR FROM ALL LUBRICATION POINTS.

CAUSE:

AIR BUBBLES IN LUBRICANT

REMEDY:

REFILL THE PUMP AND REMOVE THE OUTLET FITTING ON PUMP ELEMENT. GREASE MUST EMERGE WITHOUT AIR BUBBLES. RESTORE CHECK VALVE.

CAUSE:

UNSUITABLE LUBRICANT HAS BEEN USED

REMEDY:

RENEW THE LUBRICANT SEEING SECTION "RECOMMENDED LUBRICANTS", ON PAGE 62

CAUSE:

PUMP PISTON WORN

REMEDY:

REPLACE PUMP ELEMENT.

CAUSE:

CHECK VALVE IN PUMP ELEMENT DEFECTIVE

REMEDY:

REPLACE CHECK VALVE



FAULT: BLOCKAGE OF DOWNSTREAM PROGRESSIVE SYSTEM

(please refer to page 59 scheme)

CAUSE:

BEARING, LINES OR METERING DEVICE CLOGGED.

If not already installed, assemble a pressure gauge (H) and a safety valve (I) calibrated at 200 Bar

CLEAN OR CHANGE
PUMPING ELEMENT

Low pressure

Disconnect main line (B) from the pump (A), plug the pump (A) and drive it on.

High pressure:
grease comes out from
safety valve (I)

CLEAN OR CHANGE MAIN
DIVIDER (C) following
procedure illustrated in the
following page.

High pressure:
grease comes out
from
safety valve (I)

Reconnect the pump (A) to the main divider (C), disconnect secondary lines (E1, E2, E3, etc...) from the main divider (C) and drive pump on (A)

Low pressure:
grease comes out free of air
from the main divider (C)

CLEAN OR CHANGE
SECONDARY DIVIDER
(D1) following
procedure illustrated in
the following page.

High pressure:
grease comes out
from
safety valve (I)

*We found the line with
blockage out. Disconnect
secondary line (F) from
secondary divider (D1) and
drive pump on (A).*

High pressure:
grease comes out
from
safety valve (I)

Reconnect secondary line (E1) to the main divider (C) and drive pump on (A)

Low pressure:
grease comes out free of air
from the secondary divider
(D1)

Low pressure

RECONNECT ONE
SECONDARY LINE (F) AT
TIME, UNTIL THE BLOCKED
LUBRICATION POINT HASN'T
BEEN FOUND OUT. WHEN
FOUND, UNBLOCK WITH A
MANUAL PUMP.

*Repeat operation for the other
secondary lines (E2, E3, etc...) until the blockage line hasn't been found out.*

TO AVOID PROGRESSIVE DIVIDER TO HAVE AN HYDRAULIC BLOCKAGE, DO NOT ASSEMBLE PLUG IN THE OUTLETS WITHOUT CONTACT US! PLEASE FOLLOW THESE PROCEDURES ALSO IN CASE OF LONGE STOP OF THE MACHINE.



REMEDY:

REPLACE METERING DEVICE OR CLEAN IT IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

REMOVE ALL TUBE FITTINGS

UNSCREW THE PISTON CLOSURE PLUGS

IF POSSIBLE, TRY TO EJECT THE PISTON USING A SMOOTH DRIFT (DIA SMALLER THAN 6 MM)

THE PISTONS ARE PRECISION FITTED INTO THE HOLES. MARK THE PISTONS WITH REGARD TO THEIR INSTALLATION POSITION AND DIRECTION AFTER THEY HAVE BEEN REMOVED.

THEY MUST NOT BE EXCHANGED!

THOROUGHLY CLEAN METERING DEVICE BODY IN FAT-DISSOLVING WASHING AGENT, BLOW THROUGH WITH COMPRESSED AIR.

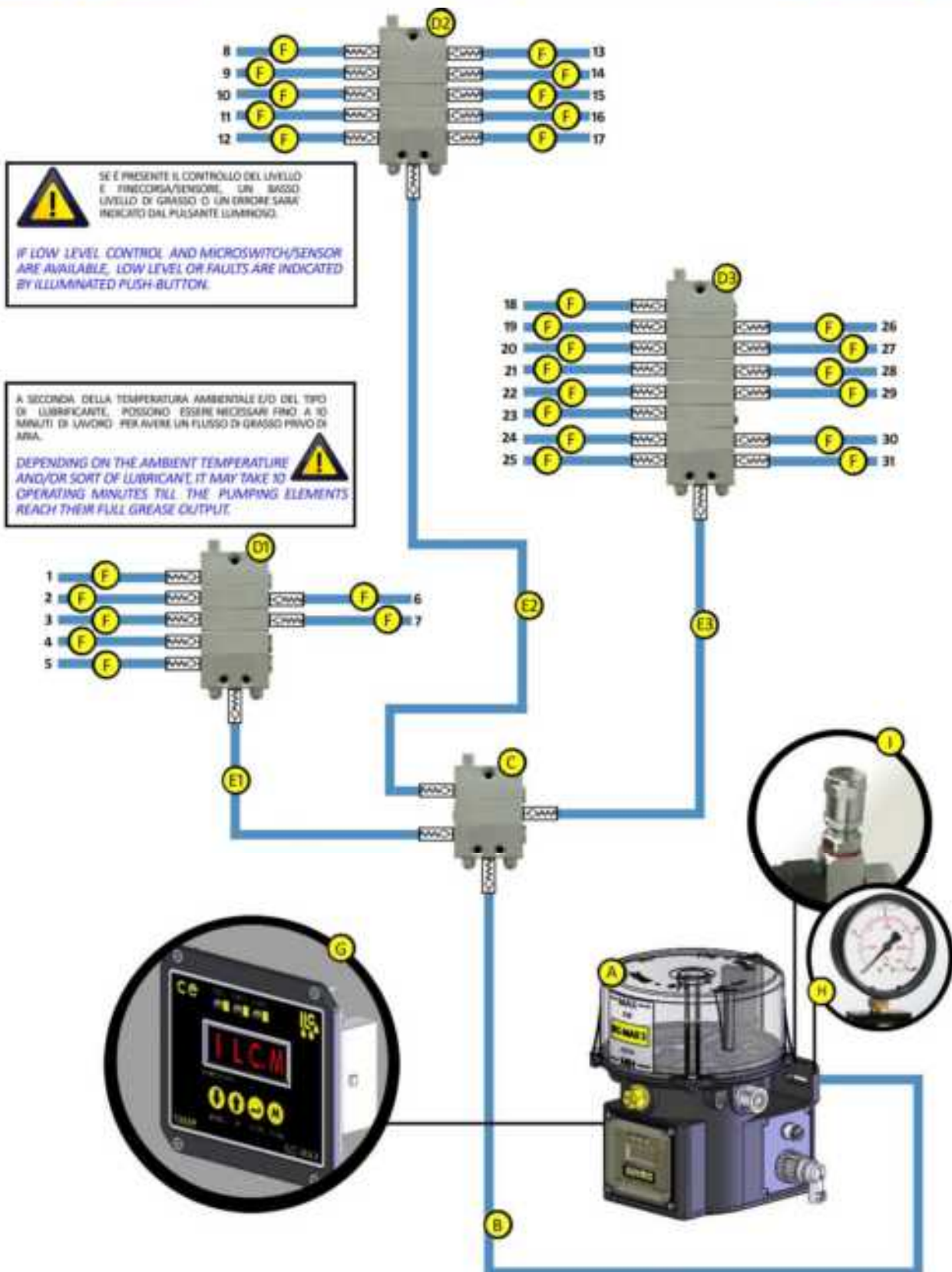
PRESS FREE THE SLANT DUCTS (DIA 1.5 MM) AT THE THREAD ENDS OF THE PISTON HOLES USING A PIN.

CLEAN THE METERING DEVICES AGAIN AND BLOW THEM THROUGH.

REASSEMBLE THE METERING DEVICE.

REPLACE COPPER WASHERS.

BEFORE THE TUBE FITTINGS ARE REASSEMBLED, THE METERING DEVICES SHOULD BE PUMPED SEVERAL CYCLES BY MEAN OF A MANUAL PUMP. CHECK THAT THE PRESSURE IN THE METERING DEVICE DOES NOT EXCEED 25 BAR (362.8 PSI). IF THE PRESSURE IS HIGHER, REPLACE THE METERING DEVICE.





	RESET ALARM	
	<u>PROBLEM</u> Reset button is in short circuit (alarm let the pump working correctly)	<u>REMEDY</u> Change reset button
	CYCLE ALARM	
	<u>PROBLEM</u> Blockage of downstream progressive system	<u>REMEDY</u> See page 56
	OVERPRESSURE ALARM	
	<u>PROBLEM</u> Blockage of downstream progressive system	<u>REMEDY</u> See page 56
	LOW LEVEL ALARM	
	<u>PROBLEM</u> Reservoir is empty	<u>REMEDY</u> Fill the reservoir



	PUMP ROPES ALARM	
	<u>PROBLEM</u> Pump motor doesn't start	<u>REMEDY</u> See page 56
	TEMPERATURE ALARM	
	<u>PROBLEM</u> Timer is over 80°C	<u>REMEDY</u> Remove the heat source near to the timer (pump will work again when temperature will be under 70°C)
	TENSION ALARM	
	<u>PROBLEM</u> Timer is charged with a less than 9 V tension	<u>REMEDY</u> Check charging line and restore the correct tension (min 9 V)
	STATUS DRIVER ALARM	
	<u>PROBLEM</u> Motore and timer are not communicating	<u>REMEDY</u> Change timer or motor



RECOMMENDED LUBRICANTS



IMPORTANT!

Absolute cleanliness is essential when handling lubricants. Impurities will remain suspended in grease and this will block system or cause bearings damages!

MANUFACTURER	DESIGNATION	BASE SOAP
AGIP.....	F1 GREASE 24.....	Ca
ARAL.....	MULTI-PURPOSE GREASE.....	Ca/Li
AUTOL.....	TOP 2000.....	Ca
BP.....	GREASE.....	Ca
BP.....	C1 - GREASE.....	Ca
CASTROL.....	CL - GREASE.....	Ca
ESSO.....	CAZAR K2.....	Ca
ESSO.....	HIGH-PRESSURE GREASE.....	Ca
FIAT LUBRICANTI.....	COMAR 2.....	Li
FUCHS.....	FN 745.....	Ca
FUCHS.....	LZR 2.....	Li
FUCHS.....	PLANTOGEL S2.....	Ca
FUCHS.....	RENOCAL FN3.....	Ca
FUCHS.....	RENOLIT HLT 2.....	Li
MOBIL.....	MOBILGREASE.....	Li
MOLYKOTE.....	TTF 52.....ORD. THICKNER	
OPTIMOL.....	LONGTIME PD 2.....	Li
OPTIMOL.....	OLIT CLS.....	Li/Ca
SHELL.....	RETINAX C.....	Ca
ZELLER GMELIN.....	ZG 450.....	Li
ZELLER GMELIN.....	ZG 736.....	Li

BIO-DEGRADABLE GREASE

ARAL.....	BAB EP 2.....	Li/Ca
AVIA.....	BIOGREASE 1.....	Li
DEA.....	DOLON E 2.....	Li

Pos.	Codice / code	Descrizione / Description	Q.ty
1	A70093501-24	Sottogruppo Corpo Pompa ILC-MAX per grasso 24V DC/AC ILC-MAX Body pump for grease 24V DC/AC	1
	A70093501-12	Sottogruppo Corpo Pompa ILC-MAX per grasso 12V DC/AC ILC-MAX Body pump for grease 12V DC/AC	1
3	A70093531	Gruppo coperchio inferiore ILC-MAX 12/24V DC/AC ILC-MAX bottom cover 12/24V DC/AC	1
4	A70093532-115	Gruppo coperchio inferiore ILC-MAX 115V AC ILC-MAX bottom cover 115V AC	1
	A70093532-230	Gruppo coperchio inferiore ILC-MAX 230V AC ILC-MAX bottom cover 230V AC	1
6	A70093534	Sottogruppo serbatoio per grasso 2kg ILC-MAX Grease reservoir 2kg ILC-MAX	1
7	A70093536	Sottogruppo serbatoio per grasso 4kg ILC-MAX Grease reservoir 4kg ILC-MAX	1
8	A70093538	Sottogruppo serbatoio per grasso 5kg ILC-MAX Grease reservoir 5kg	1
9	A70093540	Sottogruppo serbatoio per grasso 8kg ILC-MAX Grease reservoir 8kg ILC-MAX	1
10	40-CCT-DC-00	Scheda interna ILC-MAX con TIMER DC Electronic card with TIMER DC	1
	40-CCT-AC-00	Scheda interna ILC-MAX con TIMER AC Electronic card with TIMER AC	1
	40-CST-DC-00	Scheda interna ILC-MAX senza TIMER DC Card without TIMER DC	1
	40-CST-AC-00	Scheda interna ILC-MAX senza TIMER AC Card without TIMER AC	1
14	40-PWR-74-BT-DC	Connessione elettrica 7+4 poli BT-DC Elecrtic power connection 7+4 poles BT-DC	1
	40-PWR-74-BT-AC	Connessione elettrica 7+4 poli BT-AC Elecric power connection 7+4 poles BT-AC	1
	40-PWR-74-AT-AC	Connessione elettrica 7+4 poli AT-AC Elecric power connection 7+4 poles AT-AC	1
	40-PWR-70	Connessione elettrica 7+0 poli senza TIMER Elecric power connection 7+0 poles without TIMER	1
18	40-CPT-00	Coperchio protezione TIMER Protection cover for TIMER	1
19	90-900-0	Pompante a portata fissa per elettropompa PEG-N Fixed pumping element	1
20	90-900-3	Gruppo pompante regolabile elettropompe PEG-N Adjustable pumping element	1

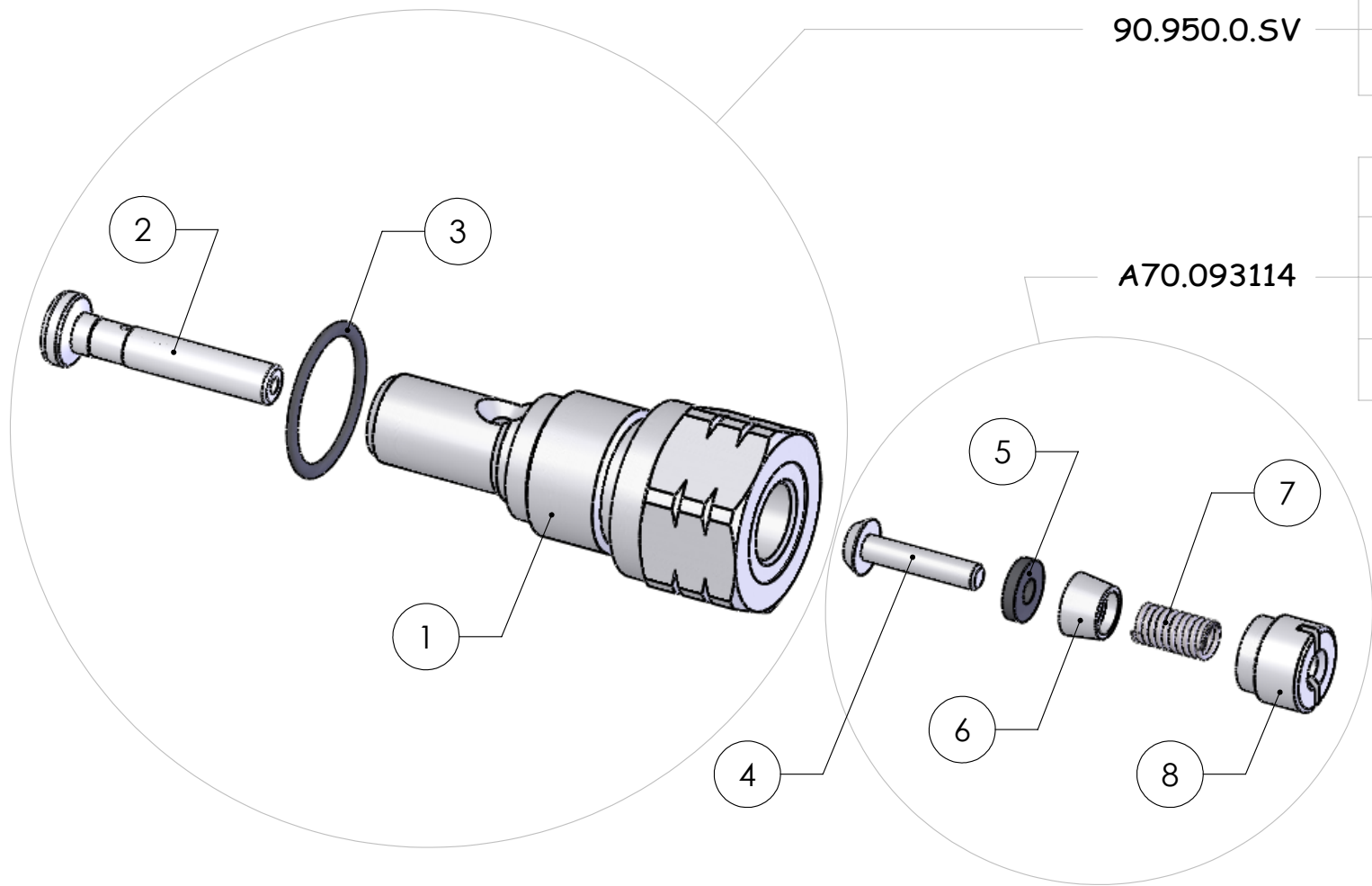


QUESTO DISEGNO E' DI PROPRIETA' ESCLUSIVA DELLA -ILC- IMPIANTI DI LUBRIFICAZIONE CENTRALIZZATA S.R.L. A TERMINI DI LEGGE ESSA VIETA DI RIPRODURLO O COMUNICARLO A TERZI CONCORRENTI O AD ALTRI SENZA LA SUA ESPLICITA AUTORIZZAZIONE		DISEGNATO / DRAWN BARONI	DATA / DATE 11/07/2012	 UFFICIO TECNICO GORLA MINORE
		CONTROLLATO / CHECK -	SCALA / SCALE 1:2.5	
		CODICE CLIENTE / CLIENT CODE		
DENOMINAZIONE / DESCRIPTION TABELLA RICAMBI PER ILC-MAX ELETTROPOMPA PER GRASSO SPARE PARTS FOR ILC-MAX ELECTRIC GREASE PUMP			CODICE N° / CODE ILC-MAX GRASSO	
			FOGLIO/FOGLIO	

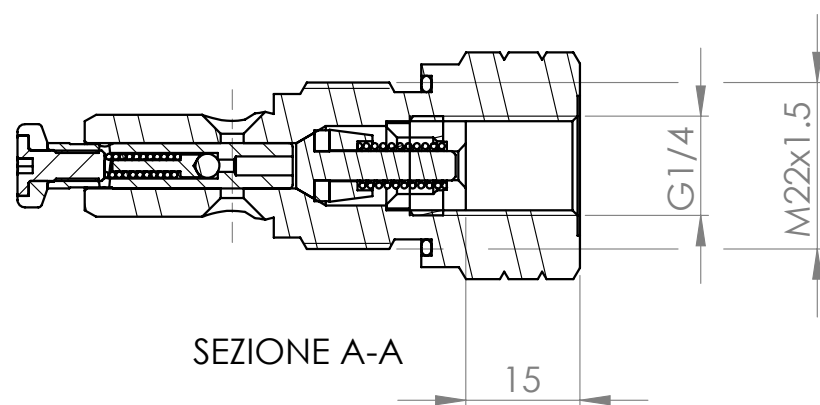
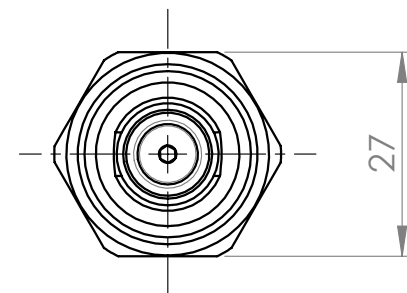
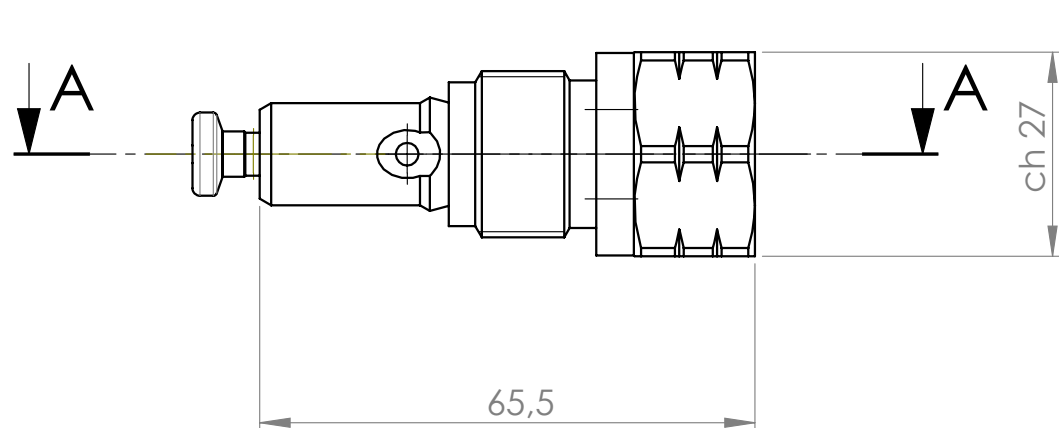
Pos.	Codice/code	Descrizione/Description	Q.ty
1	A70093502-24	Sottogruppo Corpo Pompa ILC-MAX per olio 24V DC/AC ILC-MAX Body pump for oil 24V DC/AC	1
	A70093502-12	Sottogruppo Corpo Pompa ILC-MAX per olio 12V DC/AC ILC-MAX Body pump for oil 12V DC/AC	1
2	A70093531	Gruppo coperchio inferiore ILC-MAX 12/24V DC/AC ILC-MAX bottom cover 12/24V DC/AC	1
3	A70093532-115	Gruppo coperchio inferiore ILC-MAX 115V AC ILC-MAX bottom cover 115V AC	1
	A70093532-230	Gruppo coperchio inferiore ILC-MAX 230V AC ILC-MAX bottom cover 230V AC	1
6	40-CCT-DC-00	Scheda interna ILC-MAX con TIMER DC Electronic card with TIMER DC	1
	40-CCT-AC-00	Scheda interna ILC-MAX con TIMER AC Electonic card with TIMER AC	1
	40-CST-DC-00	Scheda interna ILC-MAX senza TIMER DC Card without TIMER DC	1
	40-CST-AC-00	Scheda interna ILC-MAX senza TIMER AC Card without TIMER AC	1
7	40-PWR-74-BT-DC	Connessione elettrica 7+4 poli BT-DC Electric power connection 7+4 poles BT-DC	1
	40-PWR-74-BT-AC	Connessione elettrica 7+4 poli BT-AC Electric power connection 7+4 poles BT-AC	1
	40-PWR-74-AT-AC	Connessione elettrica 7+4 poli AT-AC Electric power connection 7+4 poles AT-AC	1
	40-PWR-70	Connessione elettrica 7+0 poli senza TIMER Electric power connection 7+0 poles without TIMER	1
8	40-CPT-00	Coperchio protezione TIMER Protection cover for TIMER	1
9	A70093533	Sottogruppo serbatoio per olio 2l ILC-MAX Oil reservoir 2l ILC-MAX	1
10	A70093535	Sottogruppo serbatoio per olio 4l ILC-MAX Oil reservoir 4l ILC-MAX	1
11	A70093537	Sottogruppo serbatoio per olio 5l ILC-MAX Oil reservoir 5l ILC-MAX	1
12	A70093539	Sottogruppo serbatoio per olio 8l ILC-MAX Oil reservoir 8l ILC-MAX	1
20	90-900-0	Pompante a portata fissa per elettropompa PEG-N Fixed pumping element	1
21	90-900-3	Gruppo pompante regolabile elettropompe PEG-N Adjustable pumping element	1



QUESTO DISEGNO E' DI PROPRIETA' ESCLUSIVA DELLA - ILC - IMPIANTI DI LUBRIFICAZIONE CENTALIZZATA S.R.L. A TERMINI DI LEGGE ESSA VIETA DI RIPRODURLO O COMUNICARLO A TERZE CONCORRENTI O AD ALTRI SENZA LA SUA ESPLICITA AUTORIZZAZIONE	DISEGNATO / DRAWN BARONI	DATA / DATE 11/07/2012	 UFFICIO TECNICO GORLA MINORE
	CONTROLLATO / CHECK -	SCALA / SCALE 1:2.5	
	CODICE CLIENTE / CLIENT CODE		
DENOMINAZIONE / DESCRIPTION TABELLA RICAMBI PER ILC-MAX ELETTROPOMPA PER OLIO SPARE PARTS FOR ILC-MAX ELECTRIC OIL PUMP	CODICE N° / CODE ILC-MAX OLIO		FOLIO/FOLIO

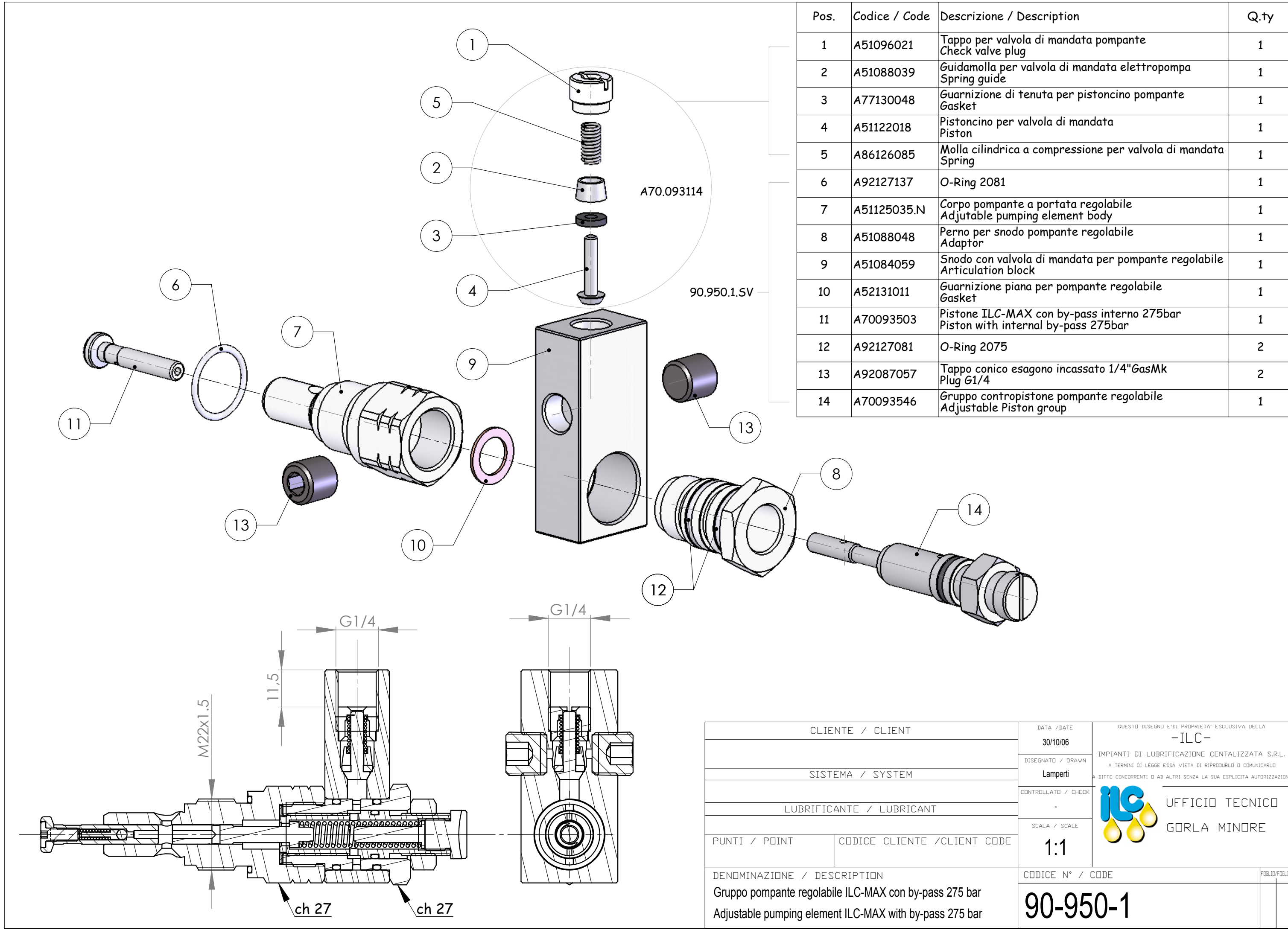


Pos.	Codice / code	Descrizione / Description	Q.ty
1	A51125028.N	Corpo pompante Body pumping element	1
2	A70093503	Pistone con by-pass interno 275bar Piston with internal by-bass 275bar	1
3	A92127137	O-Ring 2081	1
4	A51122018	Pistoncino per valvola di mandata Piston	1
5	A77130048	Guarnizione di tenuta per pistoncino pompante Gasket	1
6	A51088039	Guidamolla per valvola di mandata Spring guide	1
7	A86126085	Molla cilindrica a compressione per valvola di mandata Spring	1
8	A51096021	Tappo per valvola di mandata pompante Plug for check valve	1



CLIENTE / CLIENT		DATA / DATE	QUESTO DISEGNO E' DI PROPRIETA' ESCLUSIVA DELLA	
ilc s.r.l.		28/06/11	-ILC-	
SISTEMA / SYSTEM		DISEGNATO / DRAWN	IMPIANTI DI LUBRIFICAZIONE CENTALIZZATA S.R.L.	
Progressivo		BARONI	A TERMINI DI LEGGE ESSA VIETA DI RIPRODURLO O COMUNICARLO	
LUBRIFICANTE / LUBRICANT		CONTROLLATO / CHECK	A DITTE CONCORRENTI O AD ALTRI SENZA LA SUA ESPLICITA AUTORIZZAZIONE	
olio da 32cSt fino grassi NLGI 2		SCALA / SCALE	UFFICIO TECNICO	
PUNTI / POINT	CODICE CLIENTE / CLIENT CODE	1:1	GORLA MINORE	
DENOMINAZIONE / DESCRIPTION		CODICE N° / CODE	FOGLIO/FOGLIO	
Gruppo pompante fisso ILC-MAX con by-pass 275bar		90-950-0		
Fixed pumping element ILC-MAX with by-pass 275bar				

CHIUNQUE USI QUESTO DOCUMENTO SENZA AUTORIZZAZIONE E' PERSEGUIBILE A NORMA DI LEGGE/ANY PERSON MAKING UNAUTHORIZED USE OF THIS DOCUMENT WILL BE PROSECUTED



Pos.	Codice / Code	Descrizione / Description	Q.ty
1	A51096021	Tappo per valvola di mandata pompante Check valve plug	1
2	A51088039	Guidamolla per valvola di mandata elettropompa Spring guide	1
3	A77130048	Guarnizione di tenuta per pistoncino pompante Gasket	1
4	A51122018	Pistoncino per valvola di mandata Piston	1
5	A86126085	Molla cilindrica a compressione per valvola di mandata Spring	1
6	A92127137	O-Ring 2081	1
7	A51125035.N	Corpo pompante a portata regolabile Adjustable pumping element body	1
8	A51088048	Perno per snodo pompante regolabile Adaptor	1
9	A51084059	Snodo con valvola di mandata per pompante regolabile Articulation block	1
10	A52131011	Guarnizione piana per pompante regolabile Gasket	1
11	A70093503	Pistone ILC-MAX con by-pass interno 275bar Piston with internal by-pass 275bar	1
12	A92127081	O-Ring 2075	2
13	A92087057	Tappo conico esagono incassato 1/4"GasMk Plug G1/4	2
14	A70093546	Gruppo contropistone pompante regolabile Adjustable Piston group	1

CLIENTE / CLIENT		DATA / DATE	QUESTO DISEGNO E' DI PROPRIETA' ESCLUSIVA DELLA	
		30/10/06	-ILC-	
SISTEMA / SYSTEM		DISEGNATO / DRAWN	IMPIANTI DI LUBRIFICAZIONE CENTALIZZATA S.R.L.	
		Lamperti	A TERMINI DI LEGGE ESSA VIETA DI RIPRODURLO O COMUNICARLO	
LUBRIFICANTE / LUBRICANT		CONTROLLATO / CHECK	A DITTE CONCORRENTI O AD ALTRI SENZA LA SUA ESPLICITA AUTORIZZAZIONE	
		-	 UFFICIO TECNICO GORLA MINORE	
PUNTI / POINT		SCALA / SCALE		
		1:1		
DENOMINAZIONE / DESCRIPTION		CODICE N° / CODE		FOGLIO/FOGLIO
Gruppo pompante regolabile ILC-MAX con by-pass 275 bar Adjustable pumping element ILC-MAX with by-pass 275 bar		90-950-1		

CHIUNQUE USI QUESTO DOCUMENTO SENZA AUTORIZZAZIONE E' PERSEGUIBILE A NORMA DI LEGGE/ANY PERSON MAKING UNAUTHORIZED USE OF THIS DOCUMENT WILL BE PROSECUTED