

## POMPE A MANO serie FULCRO

### HAND PUMPS FULCRO series

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- PMI 12-25-45 con invertitore di flusso / *with directional control valve* ..... pag. 35
- PMI+VS 12-25-45  
con valvola di massima e invertitore di flusso / *with relief valve and directional control valve* ..... pag. 47
- PMSE a semplice effetto / *single acting* ..... pag. 59
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## POMPE A MANO serie ALU

### HAND PUMPS ALU series

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## POMPE A MANO serie OFFSHORE

### HAND PUMPS OFFSHORE series

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## POMPE A MANO serie FULCRO basse temperature -40°C

### HAND PUMPS FULCRO series low temperature -40°C

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## POMPE A MANO senza serbatoio

### HAND PUMPS without tank

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## Accessori / Accessories ..... pag. 69

## Posizioni di montaggio pompe a mano

### Hand pumps fixing positions ..... pag. 79

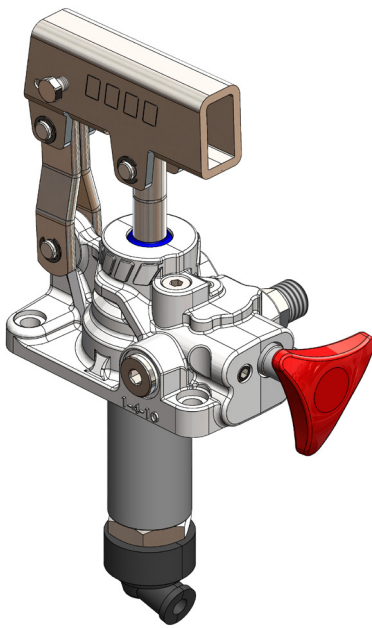
Алматы (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Владикавказ (8672)28-90-48  
Владимир (4922)49-43-18  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-48  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (3522)50-90-47  
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижегород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Саранск (8342)22-96-24  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
Тамбов (4752)50-40-97  
Тверь (4822)63-31-35

Тольятти (8482)63-91-07  
Томск (3822)98-41-53  
Тула (4872)33-79-87  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Улан-Удэ (3012)59-97-51  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Чебоксары (8352)28-53-07  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93



Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendolo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento zincatura+sigillatura e lo stelo nichelato.

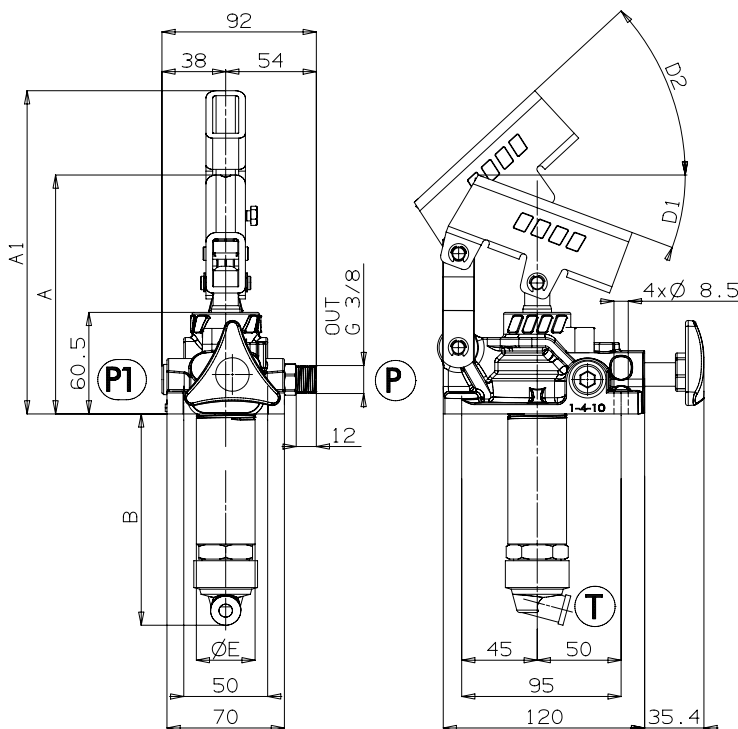
*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.*

*These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. They are available with nodular cast-iron body zinc plating+sealed and nickel-plated spool.*

**Codice di ordinazione (senza leva)**  
Order code (without lever)

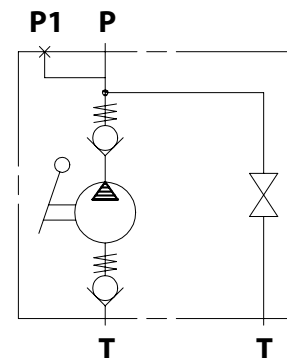
|  |    | FULCRO 12   | FULCRO 25   | FULCRO 45   |
|--|----|-------------|-------------|-------------|
| <b>Senza serbatoio</b><br>Without tank |    | 10601500017 | 10600400010 | 10600400029 |
| <b>Con serbatoio</b><br>With tank      | 1  | 10601400018 | 10600200012 | 10600300066 |
|  | 2  | 10601400027 | 10600200021 | 10600300057 |
|  | 3  | 10601400036 | 10600200030 | 10600300011 |
|  | 4  | 10601400040 | 10600200037 | 10600300075 |
|  | 5  | 10601400045 | 10600200049 | 10600300020 |
|  | 7  | 10601400054 | 10600200058 | 10600300039 |
|  | 10 | 10601400063 | 10600200067 | 10600300048 |

**Ingombro / Dimensions**

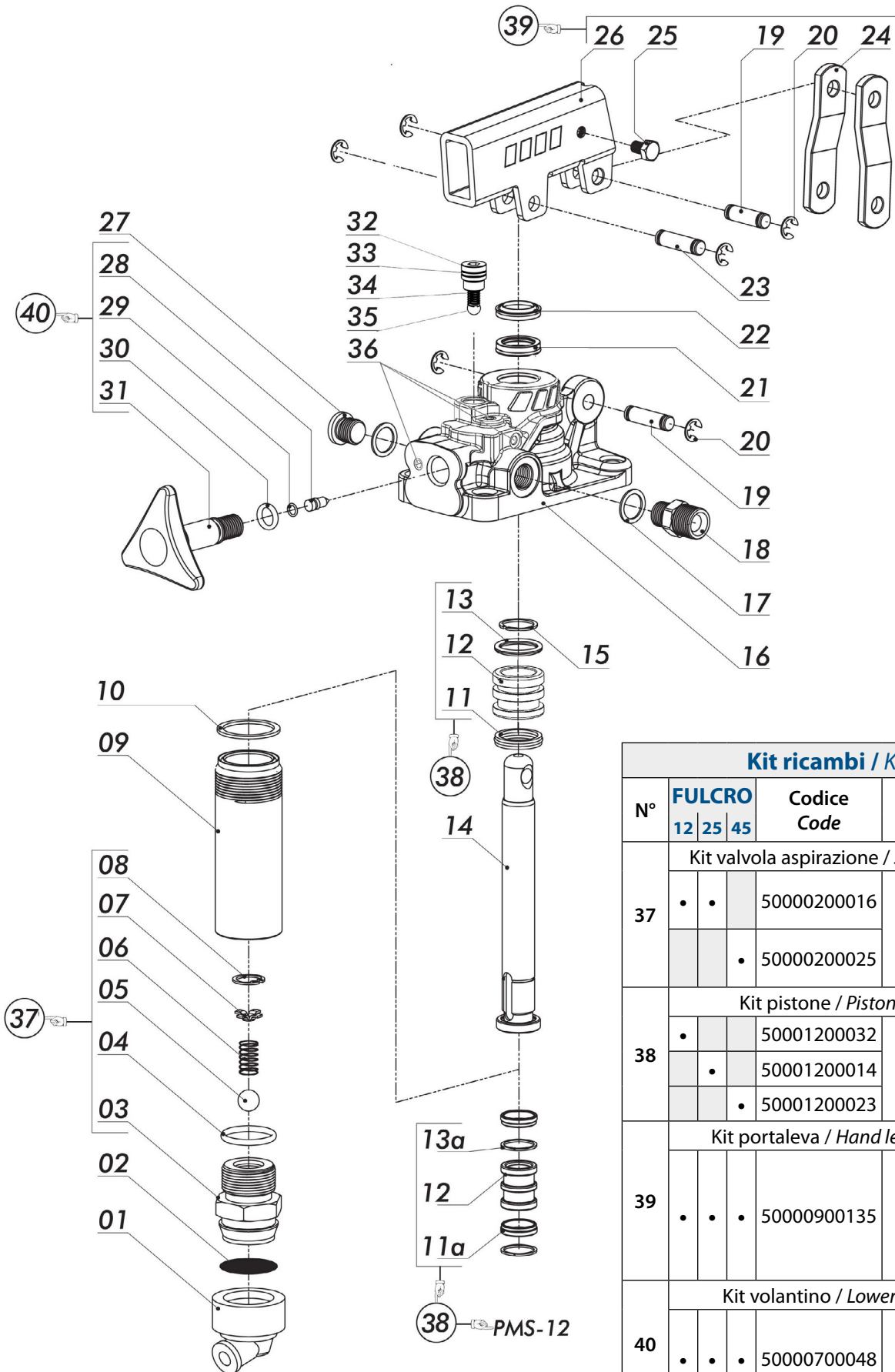


|                  | A   | A1  | B   | D1   | D2 | E  |
|------------------|-----|-----|-----|------|----|----|
|                  | mm  | mm  | mm  | °    | °  | mm |
| <b>FULCRO 12</b> | 143 | 187 | 120 | 18,5 | 45 | 35 |
| <b>FULCRO 25</b> | 142 | 193 | 127 | 20   | 45 | 35 |
| <b>FULCRO 45</b> | 141 | 193 | 138 | 20   | 45 | 42 |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



| Kit ricambi / Kit's                         |                    |                |                    |
|---|--------------------|----------------|--------------------|
| N°  | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit |                    |                |                    |
| 37  | •                  | 50000200016    |                    |
|   |                    | • 50000200025  |                    |
| Kit pistone / Piston assembly               |                    |                |                    |
| 38  | •                  | 50001200032    |                    |
|   |                    | • 50001200014  |                    |
|   |                    | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit       |                    |                |                    |
| 39  | •                  | • 50000900135  |                    |
| Kit volantino / Lowering valve kit          |                    |                |                    |
| 40  | •                  | • 50000700048  |                    |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q. |
|-----|--------|----|----|-------------|---|----|
|     | 12     | 25 | 45 |             |   |    |
| 1   | •      | •  | •  | 5060000392  | Guarnizione portafiltra<br><i>Suction cap</i>                   | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1  |
| 3   | •      | •  |    | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1  |
|     |        |    | •  | 54000500037 |   |    |
| 4   | •      | •  |    | 50600200201 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600300095 |   |    |
| 5   | •      | •  | •  | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1  |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1  |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1  |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 9   | •      |    |    | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1  |
|     |        | •  |    | 53700200019 |   |    |
|     |        |    | •  | 53700200028 |   |    |
| 10  | •      | •  |    | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                       | 1  |
|     |        |    | •  | 11600901308 |   |    |
| 11a | •      |    |    | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2  |
| 11  |        | •  |    | 50600000258 | Guarnizione speciale<br><i>Special gasket</i>                   | 1  |
|     |        |    | •  | 50600000267 |   |    |
| 12  | •      |    |    | 53200200082 | Pistone<br><i>Piston</i>  | 1  |
|     |        | •  |    | 53200200028 |   |    |
|     |        |    | •  | 53200200037 |   |    |
| 13a | •      |    |    | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2  |
| 13  |        | •  |    | 50600200158 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600200229 |   |    |
| 14  | •      |    |    | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1  |
|     |        | •  |    | 53500100069 |   |    |
|     |        |    | •  | 53500100078 |   |    |
| 15  | •      |    |    | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1  |
|     |        | •  |    | 50101100111 |   |    |
|     |        |    | •  | 50101100148 |   |    |
| 16  | •      |    |    | 51700100754 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1  |
|     |        | •  |    | 51700100772 |   |    |
|     |        |    | •  | 51700100790 |   |    |
| 17  | •      | •  | •  | 11600900158 | Rondella utilizzi<br><i>Washer</i>                              | 2  |
| 18  | •      | •  | •  | 11600600259 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 1  |
| 19  | •      | •  | •  | 52600100095 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>              | 2  |
| 20  | •      | •  | •  | 50101500028 | Anello elastico<br><i>Circlip</i>                               | 6  |
|     | •      |    |    | 50600001926 |   |    |
| 21  |        | •  |    | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1  |
|     |        |    | •  | 50600001944 |   |    |
|     | •      |    |    | 50600002729 |   |    |
| 22  |        | •  |    | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1  |
|     |        |    | •  | 50600002738 |   |    |
| 23  | •      | •  | •  | 52600100086 | Spinotto<br><i>Gudgeon Pin</i>                                  | 1  |
| 24  | •      | •  | •  | 53800100081 | Biella<br><i>Brackets</i>                                       | 2  |
| 25  | •      | •  | •  | 50200200012 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1  |
| 26  | •      | •  | •  | 53900100212 | Portaleva<br><i>Lever holder</i>                                | 1  |
| 27  | •      | •  | •  | 11500600117 | Tappo utilizzo<br><i>Pressure port plug</i>                     | 1  |
| 28  | •      | •  | •  | 54300400023 | Spillo tenuta<br><i>Pin</i>                                     | 1  |
| 29  | •      | •  | •  | 50600000589 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 30  | •      | •  | •  | 50600200014 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 31  | •      | •  | •  | 50000100357 | Volantino<br><i>Lowering wheel</i>                              | 1  |
| 32  | •      | •  | •  | 54000300477 | Tappo valvola di ritegno<br><i>Plug</i>                         | 1  |
| 33  | •      | •  | •  | 50601909150 | Guarnizione ORM 0090-15<br><i>ORM 0090-15</i>                   | 1  |
| 34  | •      | •  | •  | 51200500509 | Molla<br><i>Spring</i>  | 1  |
| 35  | •      | •  | •  | 51000900054 | Sfera 1/4" (Ø6.35)<br><i>Ball 1/4" (Ø6.35)</i>                  | 1  |
| 36  | •      | •  | •  | 50401000018 | Grano conico 1/16" NPTF<br><i>Conical plug 1/16" NPTF</i>       | 3  |

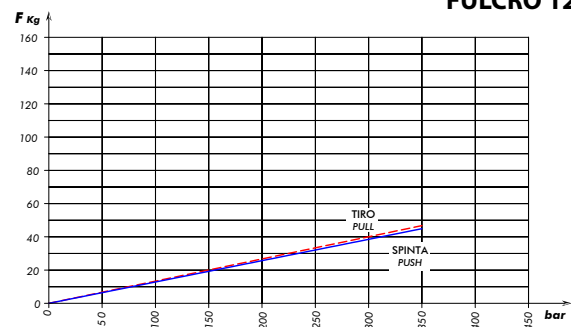
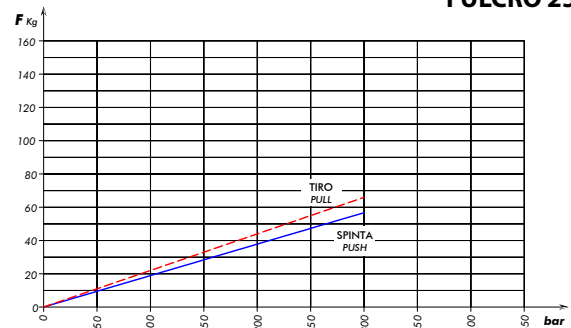
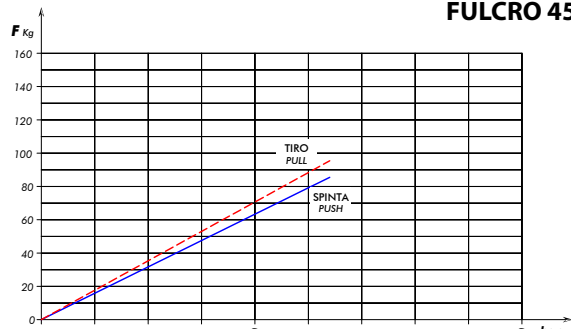


**Dati tecnici / Technical data**

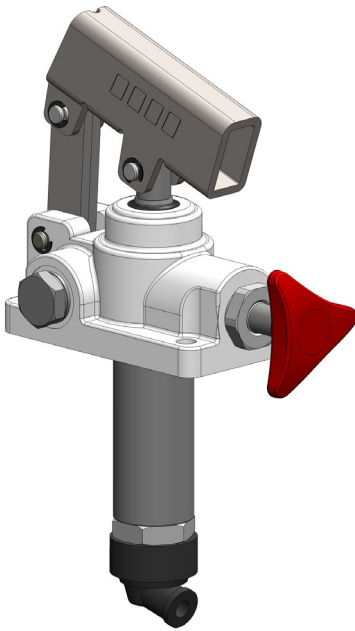
| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>FULCRO 12</b>        | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>FULCRO 25</b>        | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>FULCRO 45</b>        | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica<br>consigliata<br>Kinematic viscosity<br>suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                          |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**FULCRO 12**

**FULCRO 25**

**FULCRO 45**

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690000408      | 10690000453      | 10690000506      |



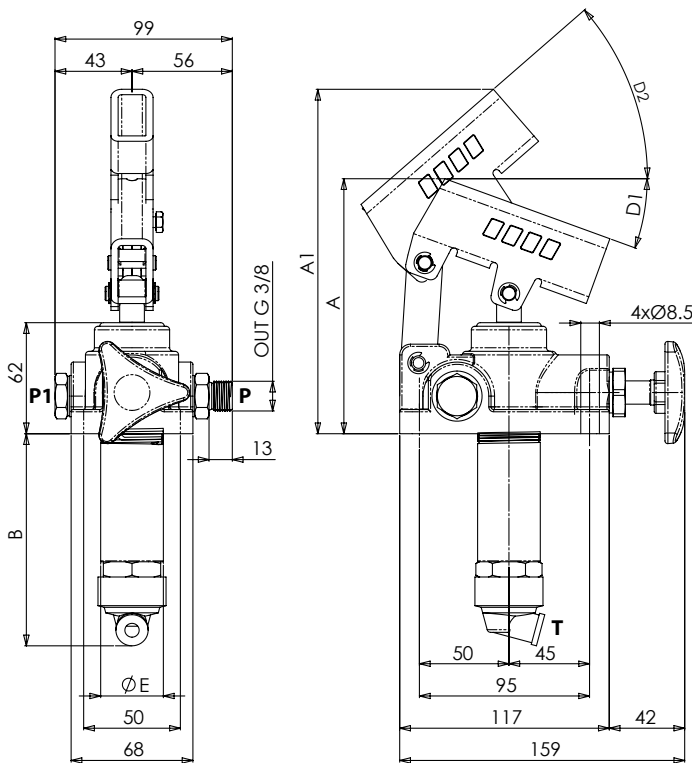
Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in alluminio e lo stelo nichelato.

*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve. These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. They are available with aluminium and nickel-plated spool.*

### Codice di ordinazione (senza leva) Order code (without lever)

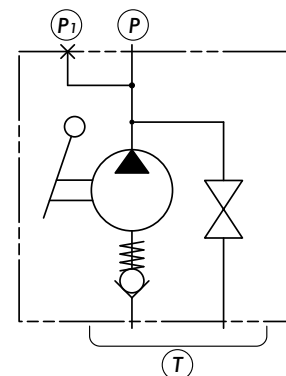
|  | ALU 12      | ALU 25      | ALU 45      |
|--|-------------|-------------|-------------|
| <b>Senza serbatoio</b><br>Without tank | 10601500035 | 10600400056 | 10600400065 |

### Ingombro / Dimensions

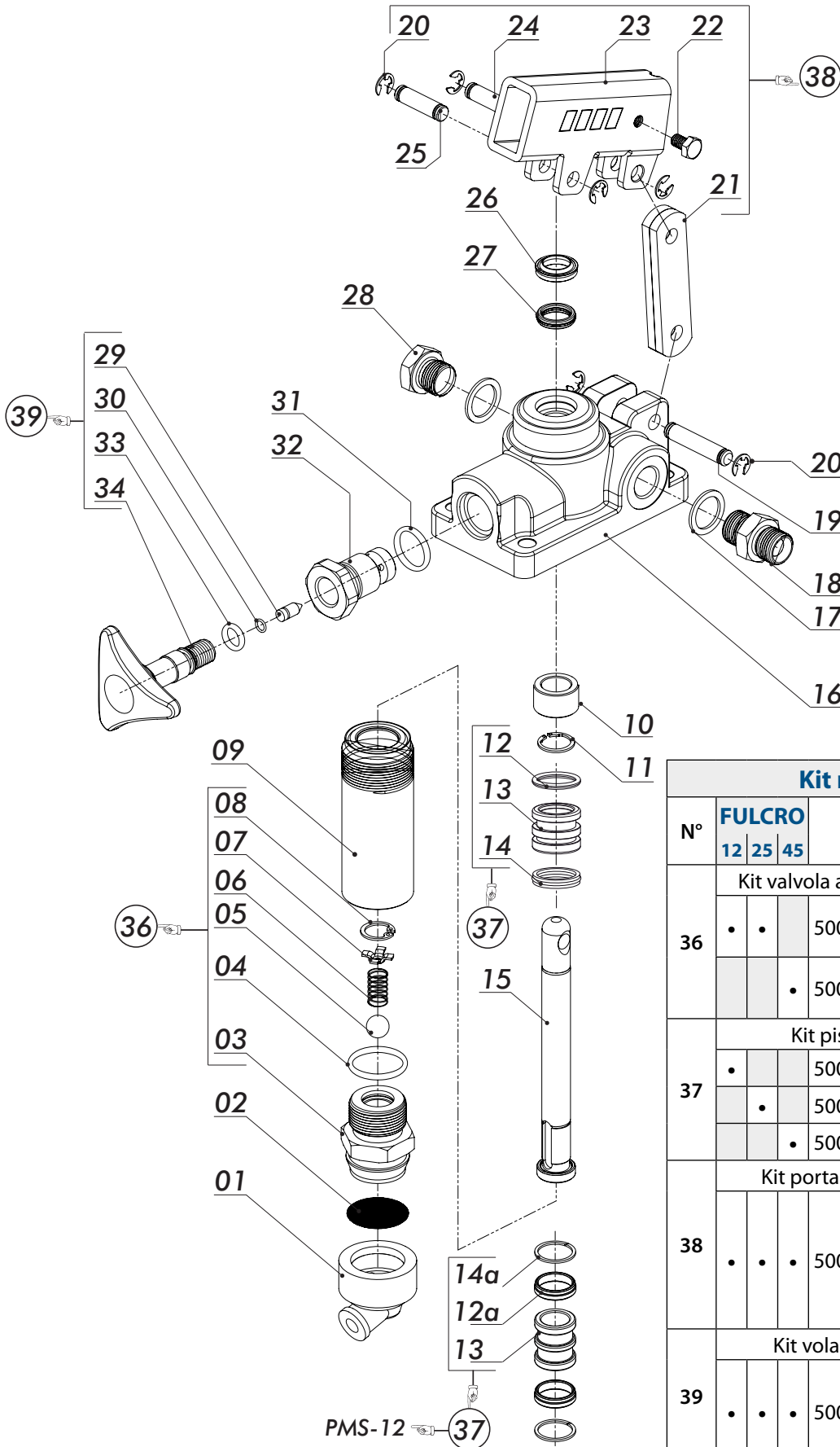


|               | A   | A1  | B   | D1   | D2 | E  |
|---------------|-----|-----|-----|------|----|----|
|               | mm  | mm  | mm  | °    | °  | mm |
| <b>ALU 12</b> | 143 | 184 | 120 | 18,5 | 45 | 35 |
| <b>ALU 25</b> | 143 | 192 | 127 | 20   | 45 | 35 |
| <b>ALU 45</b> | 142 | 192 | 138 | 22   | 45 | 42 |

### Schema idraulico / Hydraulic layout



Schema ricambio / Spare parts



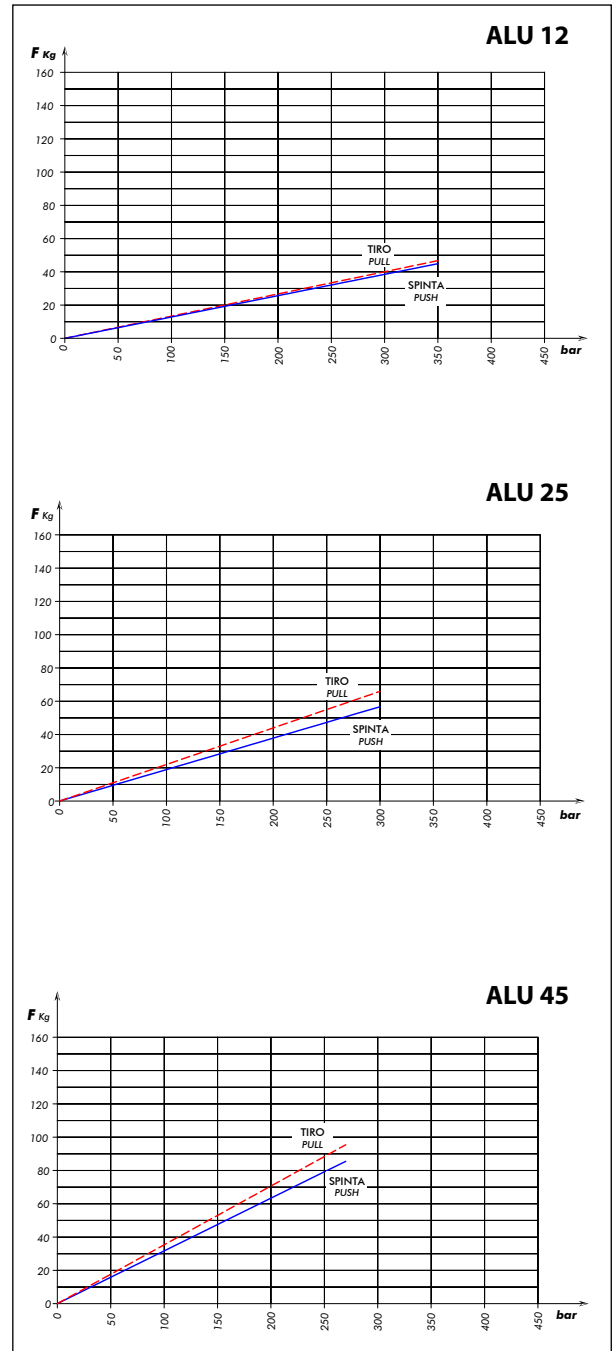
| Kit ricambi / Kit's                         |                        |                |                    |
|---|------------------------|----------------|--------------------|
| N°  | FULCRO<br>12   25   45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit |                        |                |                    |
| 36  | •                      | 50000200016    |                    |
|   |                        | • 50000200025  |                    |
| Kit pistone / Piston assembly               |                        |                |                    |
| 37  | •                      | 50001200032    |                    |
|   |                        | • 50001200014  |                    |
|   |                        | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit       |                        |                |                    |
| 38  | •                      | • 50000900055  |                    |
| Kit volantino / Lowering valve kit          |                        |                |                    |
| 39  | •                      | • 50000700048  |                    |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q. |
|-----|--------|----|----|-------------|---|----|
|     | 12     | 25 | 45 |             |   |    |
| 1   | •      | •  | •  | 50600000392 | Guarnizione portafiltro<br><i>Suction cap</i>                   | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1  |
| 3   | •      | •  | •  | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1  |
|     |        |    | •  | 54000500037 |   |    |
| 4   | •      | •  | •  | 50600200201 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600300095 |   |    |
| 5   | •      | •  | •  | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1  |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1  |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1  |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 9   | •      |    |    | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1  |
|     |        | •  |    | 53700200019 |   |    |
|     |        |    | •  | 53700200028 |   |    |
| 10  | •      |    |    | 53000500065 | Distanziale<br><i>Spacer</i>                                    | 1  |
|     |        | •  |    | 53000500010 |   |    |
|     |        |    | •  | 53000500029 |   |    |
| 11  | •      |    |    | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1  |
|     |        | •  |    | 50101100111 |   |    |
|     |        |    | •  | 50101100148 |   |    |
| 12a | •      |    |    | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2  |
| 12  |        | •  |    | 50600000258 | Guarnizione speciale<br><i>Special gasket</i>                   | 1  |
|     |        |    | •  | 50600000267 |   |    |
| 13  | •      |    |    | 53200200082 | Pistone<br><i>Piston</i>  | 1  |
|     |        | •  |    | 53200200028 |   |    |
|     |        |    | •  | 53200200037 |   |    |
| 14a | •      |    |    | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2  |
| 14  |        | •  |    | 50600200158 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600200229 |   |    |
| 15  | •      |    |    | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1  |
|     |        | •  |    | 53500100069 |   |    |
|     |        |    | •  | 53500100078 |   |    |
| 16  | •      |    |    | 51700100316 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1  |
|     |        | •  |    | 51700100334 |   |    |
|     |        |    | •  | 51700100352 |   |    |
| 17  | •      | •  | •  | 11600900309 | Rondella utilizzi<br><i>Washer</i>                              | 2  |
| 18  | •      | •  | •  | 11600600080 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 1  |
| 19  | •      | •  | •  | 52600100013 | Spinotto lunghezza 41mm<br><i>Gudgeon Pin 41mm</i>              | 1  |
| 20  | •      | •  | •  | 50101500028 | Anello elastico<br><i>Circlip</i>                               | 6  |
| 21  | •      | •  | •  | 53800100018 | Biella<br><i>Brackets</i>                                       | 2  |
| 22  | •      | •  | •  | 50200200012 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1  |
| 23  | •      | •  | •  | 53900100212 | Portaleva<br><i>Lever holder</i>                                | 1  |
| 24  | •      | •  | •  | 52600100095 | Spinotto lunghezza 27mm<br><i>Gudgeon Pin 27mm</i>              | 1  |
| 25  | •      | •  | •  | 52600100086 | Spinotto lunghezza 30mm<br><i>Gudgeon Pin 30mm</i>              | 1  |
| 26  | •      |    |    | 50600002729 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1  |
|     |        | •  |    | 50600002701 |   |    |
|     |        |    | •  | 50600002738 |   |    |
| 27  | •      |    |    | 50600001926 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1  |
|     |        | •  |    | 50600001935 |   |    |
|     |        |    | •  | 50600001944 |   |    |
| 28  | •      | •  | •  | 54000200030 | Tappo utilizzo<br><i>Pressure port plug</i>                     | 1  |
| 29  | •      | •  | •  | 54300400023 | Spillo tenuta<br><i>Pin</i>                                     | 1  |
| 30  | •      | •  | •  | 50600000589 | Guarnizione O-R<br><i>O-ring</i>                                | 1  |
| 31  | •      | •  | •  | 50600200130 | Guarnizione O-R<br><i>O-ring</i>                                | 1  |
| 32  | •      | •  | •  | 54000500162 | Tappo guida volante<br><i>Lowering wheel guide plug</i>         | 1  |
| 33  | •      | •  | •  | 50600200014 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 34  | •      | •  | •  | 50000100357 | Volantino<br><i>Lowering wheel</i>                              | 1  |

**Dati tecnici / Technical data**

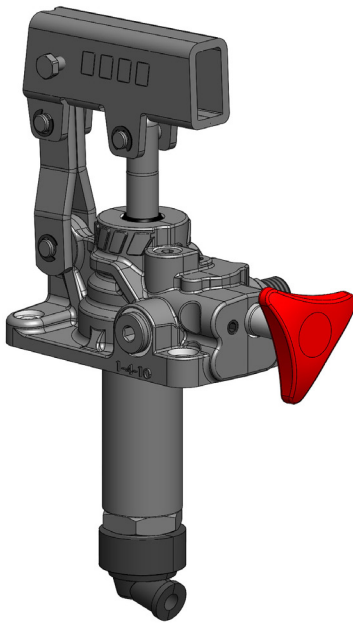
| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>ALU 12</b>           | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>ALU 25</b>           | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>ALU 45</b>           | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica<br>consigliata<br>Kinematic viscosity<br>suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                          |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Kit guarnizioni / Seal kit**

| ALU 12      | ALU 25      | ALU 45      |
|-------------|-------------|-------------|
| 10690000702 | 10690000757 | 10690000800 |





Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendolo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. **TRATTAMENTO ALTA RESISTENZA ALLA CORROSIONE (700 ore in nebbia salina).**

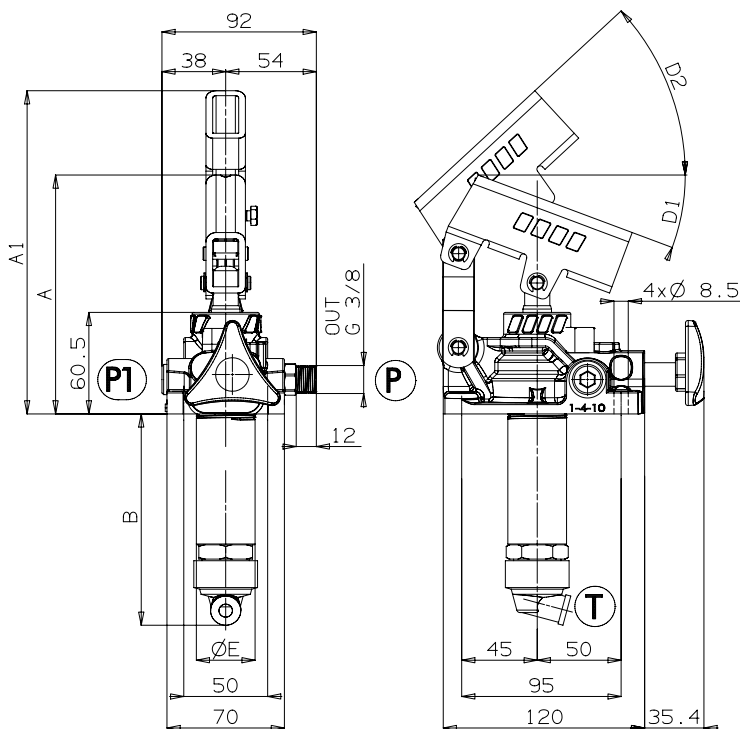
*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.*

*These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **HIGH RESISTANCE TREATMENT AGAINST CORROSION (Salt spray test=700 hours).***

**Codice di ordinazione (senza leva)**  
*Order code (without lever)*

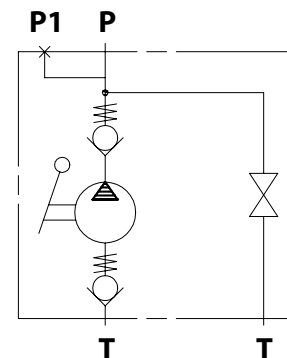
|   | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|---|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> | 10602300124      | 10602300259      | 10602300455      |

**Ingombro / Dimensions**

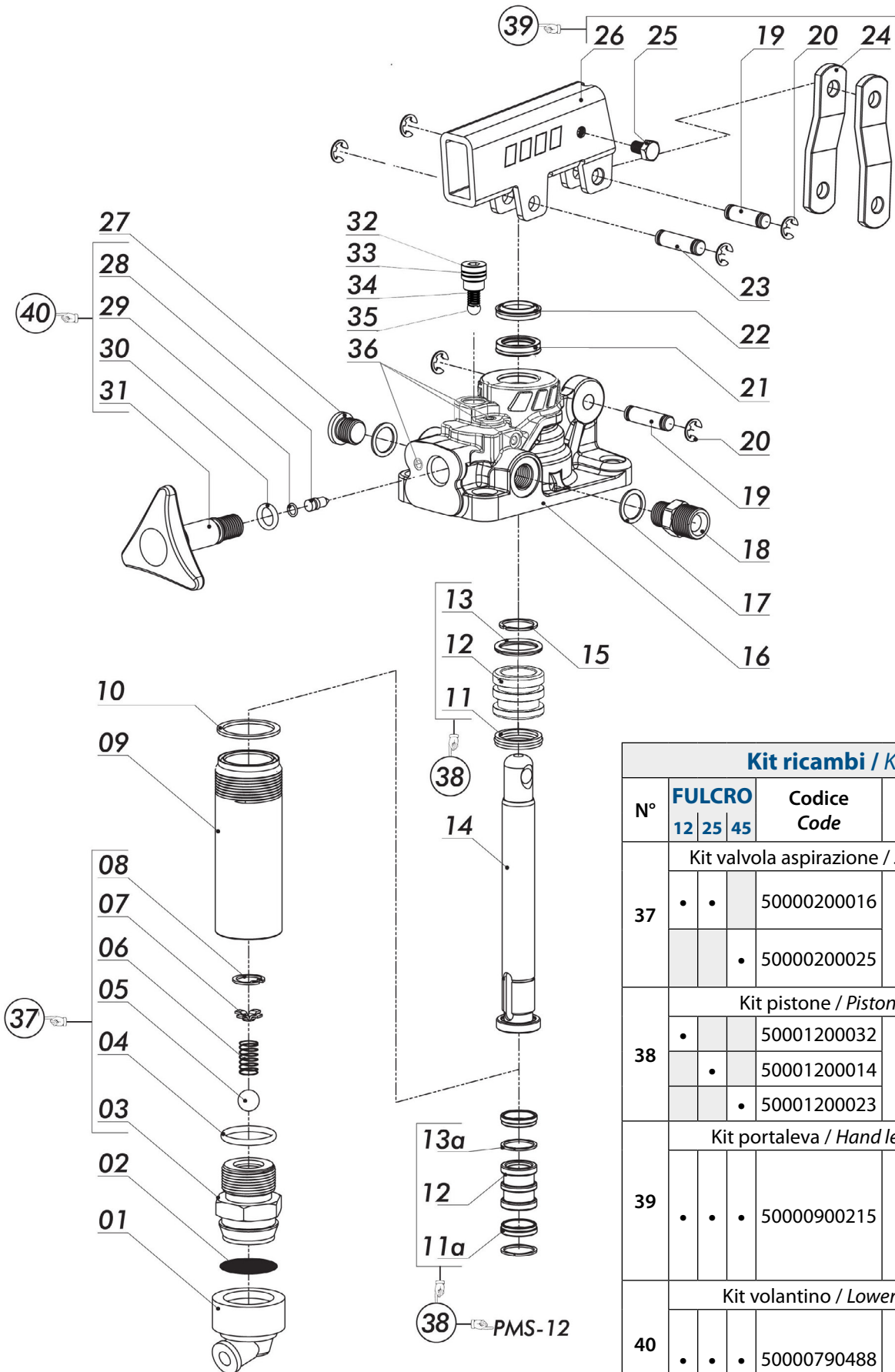


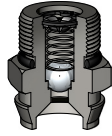

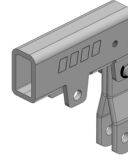

|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



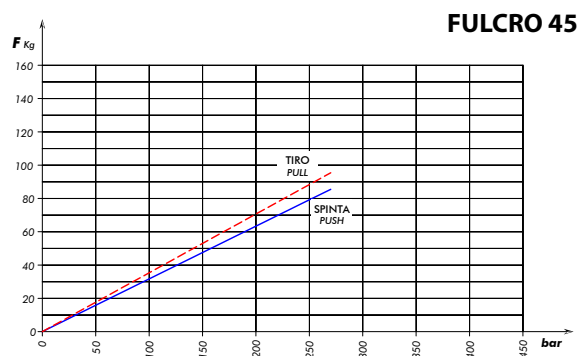
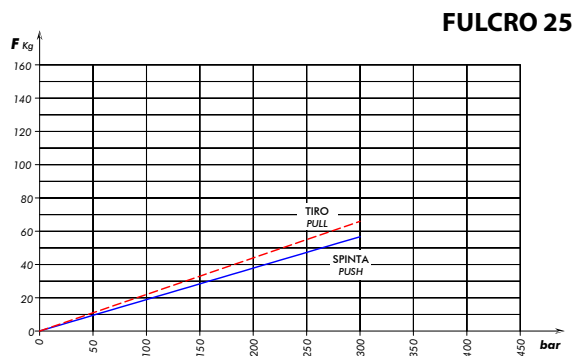
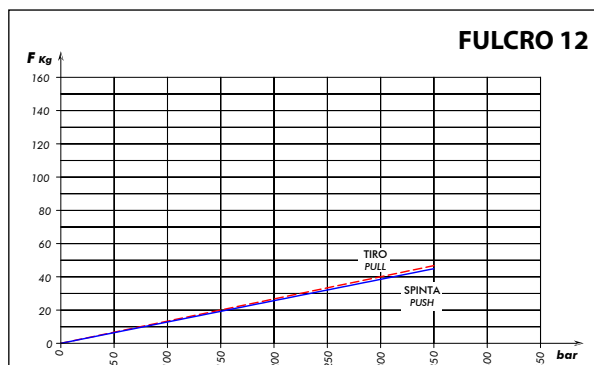
| Kit ricambi / Kit's                         |                    |                |   |
|---|--------------------|----------------|---|
| N°  | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly  |
| Kit valvola aspirazione / Suction valve kit |                    |                |   |
| 37  | •                  | 50000200016    |  |
|   |                    | 50000200025    |   |
| Kit pistone / Piston assembly               |                    |                |   |
| 38  | •                  | 50001200032    |  |
|   |                    | 50001200014    |   |
|   |                    | 50001200023    |   |
| Kit portaleva / Hand lever holder kit       |                    |                |   |
| 39  | •                  | 50000900215    |  |
| Kit volantino / Lowering valve kit          |                    |                |   |
| 40  | •                  | 50000790488    |  |

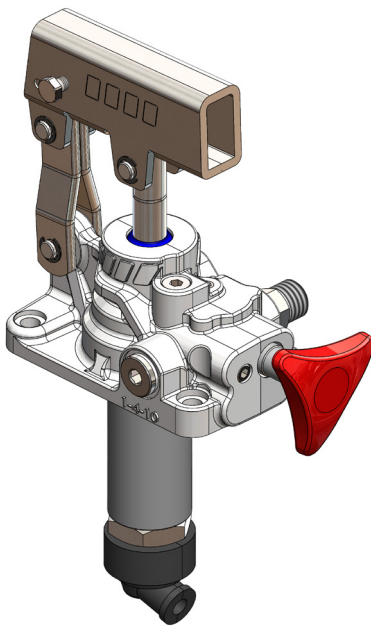
| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q. |
|-----|--------|----|----|-------------|---|----|
|     | 12     | 25 | 45 |             |   |    |
| 1   | •      | •  | •  | 5060000392  | Guarnizione portafiltra<br><i>Suction cap</i>                   | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1  |
| 3   | •      | •  |    | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1  |
|     |        |    | •  | 54000500037 |   |    |
| 4   | •      | •  |    | 50600200201 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600300095 |   |    |
| 5   | •      | •  | •  | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1  |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1  |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1  |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 9   | •      |    |    | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1  |
|     |        | •  |    | 53700200019 |   |    |
|     |        |    | •  | 53700200028 |   |    |
| 10  | •      | •  |    | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                       | 1  |
|     |        |    | •  | 11600901308 |   |    |
| 11a | •      |    |    | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2  |
| 11  |        | •  |    | 50600000258 | Guarnizione speciale<br><i>Special gasket</i>                   | 1  |
|     |        |    | •  | 50600000267 |   |    |
| 12  | •      |    |    | 53200200082 | Pistone<br><i>Piston</i>  | 1  |
|     |        | •  |    | 53200200028 |   |    |
|     |        |    | •  | 53200200037 |   |    |
| 13a | •      |    |    | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2  |
| 13  |        | •  |    | 50600200158 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600200229 |   |    |
| 14  | •      |    |    | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1  |
|     |        | •  |    | 53500100069 |   |    |
|     |        |    | •  | 53500100078 |   |    |
| 15  | •      |    |    | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1  |
|     |        | •  |    | 50101100111 |   |    |
|     |        |    | •  | 50101100148 |   |    |
| 16  | •      |    |    | 51700197544 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1  |
|     |        | •  |    | 51700197722 |   |    |
|     |        |    | •  | 51700197900 |   |    |
| 17  | •      | •  | •  | 11600900158 | Rondella utilizzi<br><i>Washer</i>                              | 2  |
| 18  | •      | •  | •  | 11600692599 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 1  |
| 19  | •      | •  | •  | 52600190953 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>              | 2  |
| 20  | •      | •  | •  | 50101590280 | Anello elastico<br><i>Circlip</i>                               | 6  |
|     | •      |    |    | 50600001926 |   |    |
| 21  |        | •  |    | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1  |
|     |        |    | •  | 50600001944 |   |    |
|     | •      |    |    | 50600002729 |   |    |
| 22  |        | •  |    | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1  |
|     |        |    | •  | 50600002738 |   |    |
|     | •      |    |    | 50600001926 |   |    |
| 23  | •      | •  | •  | 52600190864 | Spinotto<br><i>Gudgeon Pin</i>                                  | 1  |
| 24  | •      | •  | •  | 53800190814 | Biella<br><i>Brackets</i>                                       | 2  |
| 25  | •      | •  | •  | 50200290121 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1  |
| 26  | •      | •  | •  | 53900192123 | Portaleva<br><i>Lever holder</i>                                | 1  |
| 27  | •      | •  | •  | 11500691172 | Tappo utilizzo<br><i>Pressure port plug</i>                     | 1  |
| 28  | •      | •  | •  | 54300400023 | Spillo tenuta<br><i>Pin</i>                                     | 1  |
| 29  | •      | •  | •  | 50600000589 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 30  | •      | •  | •  | 50600200014 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 31  | •      | •  | •  | 50000193570 | Volantino<br><i>Lowering wheel</i>                              | 1  |
| 32  | •      | •  | •  | 54000394779 | Tappo valvola di ritegno<br><i>Plug</i>                         | 1  |
| 33  | •      | •  | •  | 50601909150 | Guarnizione ORM 0090-15<br><i>ORM 0090-15</i>                   | 1  |
| 34  | •      | •  | •  | 51200500509 | Molla<br><i>Spring</i>  | 1  |
| 35  | •      | •  | •  | 51000900054 | Sfera 1/4" (Ø6.35)<br><i>Ball 1/4" (Ø6.35)</i>                  | 1  |
| 36  | •      | •  | •  | 50101090181 | Grano conico 1/16" NPTF<br><i>Conical plug 1/16" NPTF</i>       | 3  |

**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>FULCRO 12</b>        | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>FULCRO 25</b>        | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>FULCRO 45</b>        | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica<br>consigliata<br>Kinematic viscosity<br>suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                          |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione.

**BASSE TEMPERATURE -40°C.**

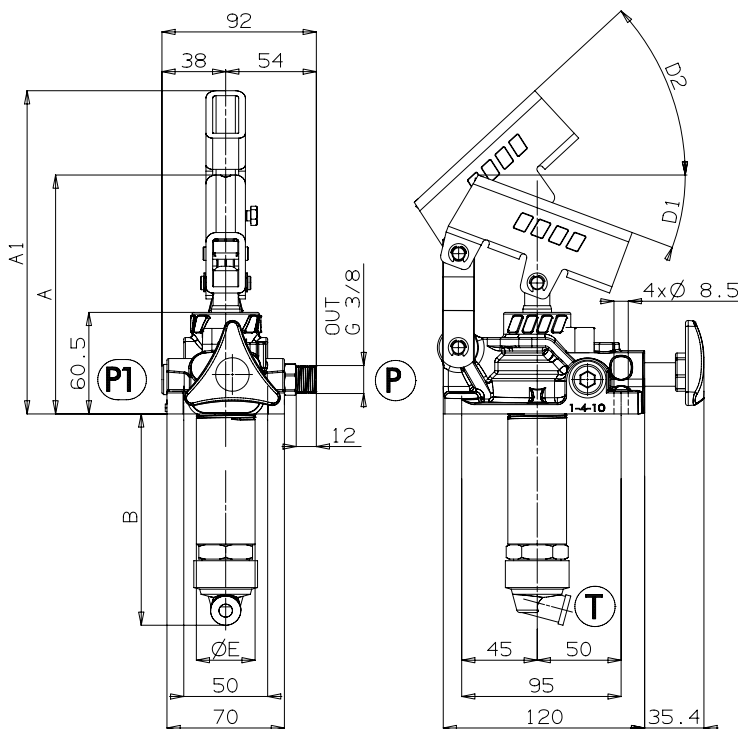
*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.*

*These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **LOW TEMPERATURE -40°C.***

**Codice di ordinazione (senza leva)**  
*Order code (without lever)*

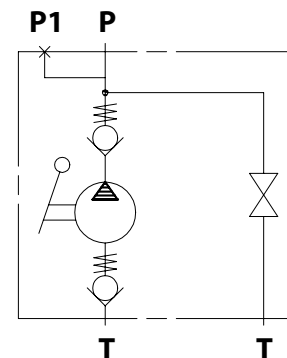
|   | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|---|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> | 10690315177      | 10690304107      | 10690304296      |

**Ingombro / Dimensions**



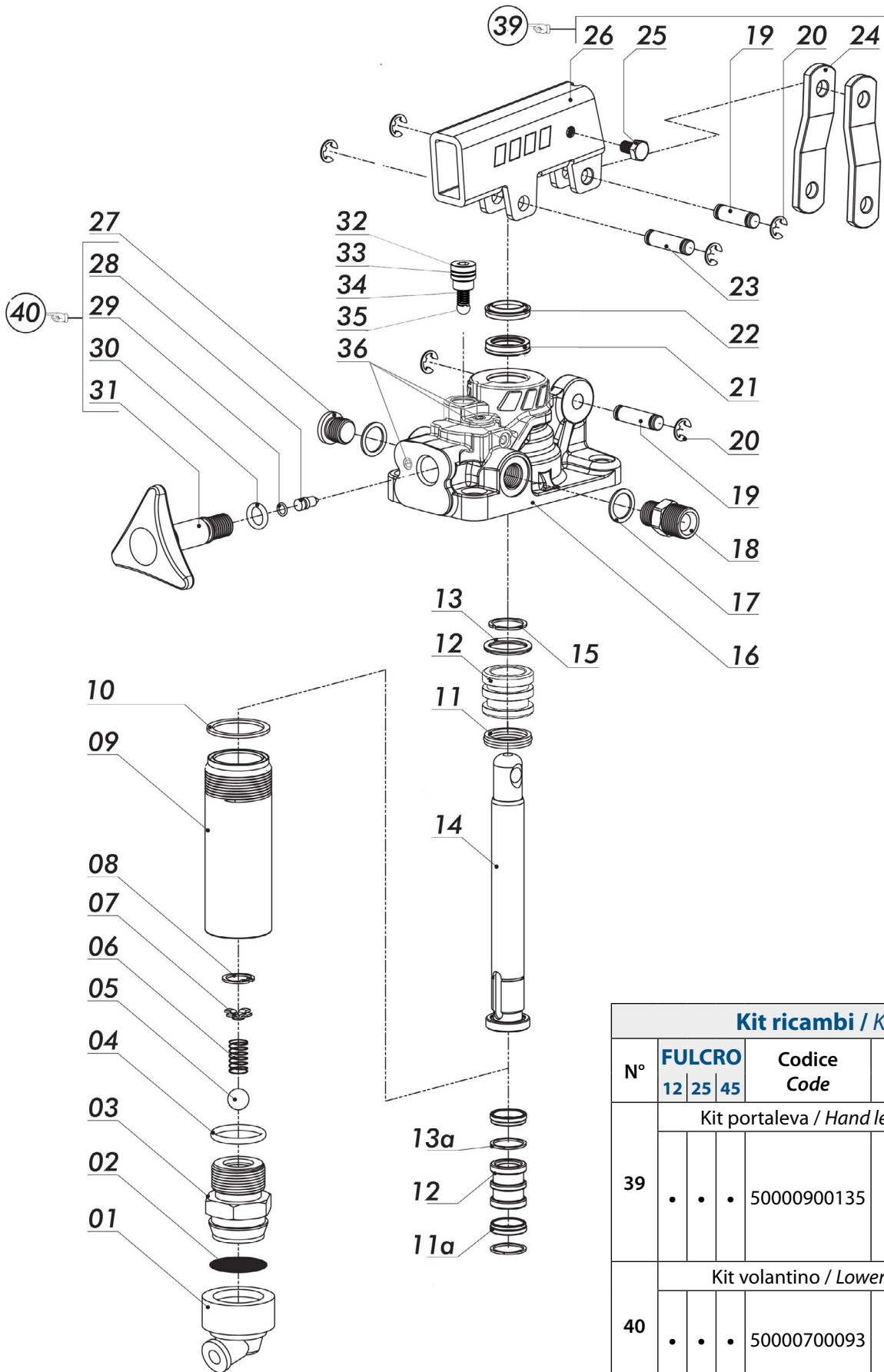
|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

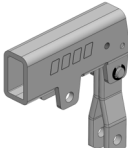

**Schema idraulico / Hydraulic layout**





**Schema ricambio / Spare parts**



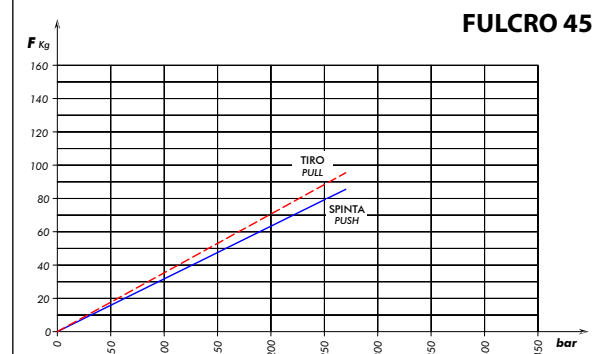
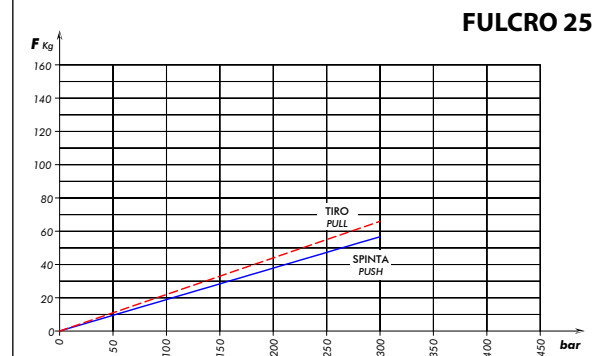
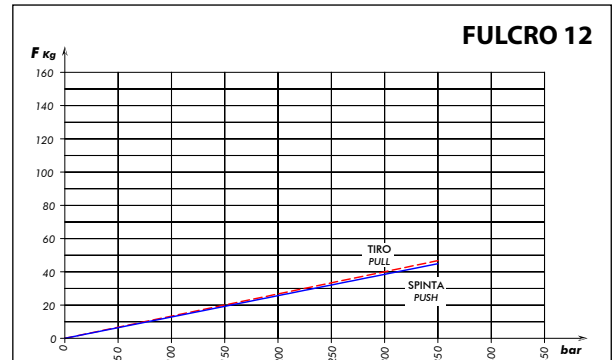
| <b>Kit ricambi / Kit's</b>            |                               |                |   |
|---------------------------------------|-------------------------------|----------------|---|
| N°                                    | <b>FULCRO</b><br>12   25   45 | Codice<br>Code | Gruppo<br>Assembly  |
| Kit portaleva / Hand lever holder kit |                               |                |   |
| 39                                    | • • •                         | 50000900135    |  |
| Kit volantino / Lowering valve kit    |                               |                |   |
| 40                                    | • • •                         | 50000700093    |  |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q. |
|-----|--------|----|----|-------------|---|----|
|     | 12     | 25 | 45 |             |   |    |
| 1   | •      | •  | •  | 5060000427  | Guarnizione portafiltra<br><i>Suction cap</i>                   | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1  |
| 3   | •      | •  |    | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1  |
|     |        |    | •  | 54000500037 |   |    |
| 4   | •      | •  |    | 5060000802  | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 5060000972  |   |    |
| 5   | •      | •  | •  | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1  |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1  |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1  |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 9   | •      |    |    | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1  |
|     |        | •  |    | 53700200019 |   |    |
|     |        |    | •  | 53700200028 |   |    |
| 10  | •      | •  |    | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                       | 1  |
|     |        |    | •  | 11600901308 |   |    |
| 11a | •      |    |    | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2  |
| 11  |        | •  |    | 50600000954 | Guarnizione speciale<br><i>Special gasket</i>                   | 1  |
|     |        |    | •  | 50600000267 |   |    |
| 12  | •      |    |    | 53200200082 | Pistone<br><i>Piston</i>  | 1  |
|     |        | •  |    | 53200200028 |   |    |
|     |        |    | •  | 53200200037 |   |    |
| 13a | •      |    |    | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2  |
| 13  |        | •  |    | 50600000945 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600000990 |   |    |
| 14  | •      |    |    | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1  |
|     |        | •  |    | 53500100069 |   |    |
|     |        |    | •  | 53500100078 |   |    |
| 15  | •      |    |    | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1  |
|     |        | •  |    | 50101100111 |   |    |
|     |        |    | •  | 50101100148 |   |    |
| 16  | •      |    |    | 51700100754 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1  |
|     |        | •  |    | 51700100772 |   |    |
|     |        |    | •  | 51700100790 |   |    |
| 17  | •      | •  | •  | 11600900158 | Rondella utilizzi<br><i>Washer</i>                              | 2  |
| 18  | •      | •  | •  | 11600600259 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 1  |
| 19  | •      | •  | •  | 52600100095 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>              | 2  |
| 20  | •      | •  | •  | 50101500028 | Anello elastico<br><i>Circlip</i>                               | 6  |
|     | •      |    |    | 50600001926 |   |    |
| 21  |        | •  |    | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1  |
|     |        |    | •  | 50600001944 |   |    |
|     | •      |    |    | 50600002729 |   |    |
| 22  |        | •  |    | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1  |
|     |        |    | •  | 50600002738 |   |    |
|     | •      | •  | •  | 52600100086 |   |    |
| 23  | •      | •  | •  | 52600100086 | Spinotto<br><i>Gudgeon Pin</i>                                  | 1  |
| 24  | •      | •  | •  | 53800100081 | Biella<br><i>Brackets</i>                                       | 2  |
| 25  | •      | •  | •  | 50200200012 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1  |
| 26  | •      | •  | •  | 53900100212 | Portaleva<br><i>Lever holder</i>                                | 1  |
| 27  | •      | •  | •  | 11500600117 | Tappo utilizzo<br><i>Pressure port plug</i>                     | 1  |
| 28  | •      | •  | •  | 54300400023 | Spillo tenuta<br><i>Pin</i>                                     | 1  |
| 29  | •      | •  | •  | 50600001033 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 30  | •      | •  | •  | 50600001800 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 31  | •      | •  | •  | 50000100357 | Volantino<br><i>Lowering wheel</i>                              | 1  |
| 32  | •      | •  | •  | 54000300477 | Tappo valvola di ritegno<br><i>Plug</i>                         | 1  |
| 33  | •      | •  | •  | 50600010915 | Guarnizione ORM 0090-15<br><i>ORM 0090-15</i>                   | 1  |
| 34  | •      | •  | •  | 51200500509 | Molla<br><i>Spring</i>  | 1  |
| 35  | •      | •  | •  | 51000900054 | Sfera 1/4" (Ø6.35)<br><i>Ball 1/4" (Ø6.35)</i>                  | 1  |
| 36  | •      | •  | •  | 50401000018 | Grano conico 1/16" NPTF<br><i>Conical plug 1/16" NPTF</i>       | 3  |

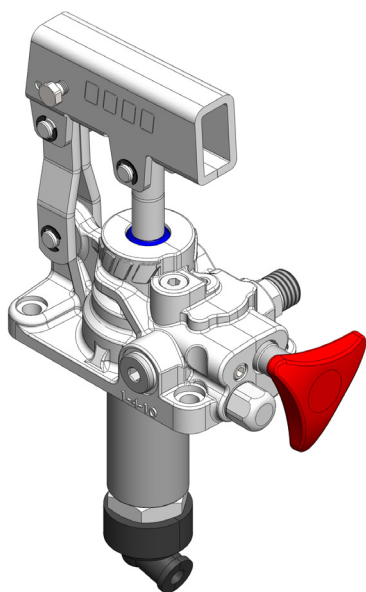
**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>FULCRO 12</b>        | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>FULCRO 25</b>        | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>FULCRO 45</b>        | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica<br>consigliata<br>Kinematic viscosity<br>suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                          |  | -40° +100°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690010086      | 10690010095      | 10690010102      |



Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendolo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento zincatura+sigillatura e lo stelo nichelato.

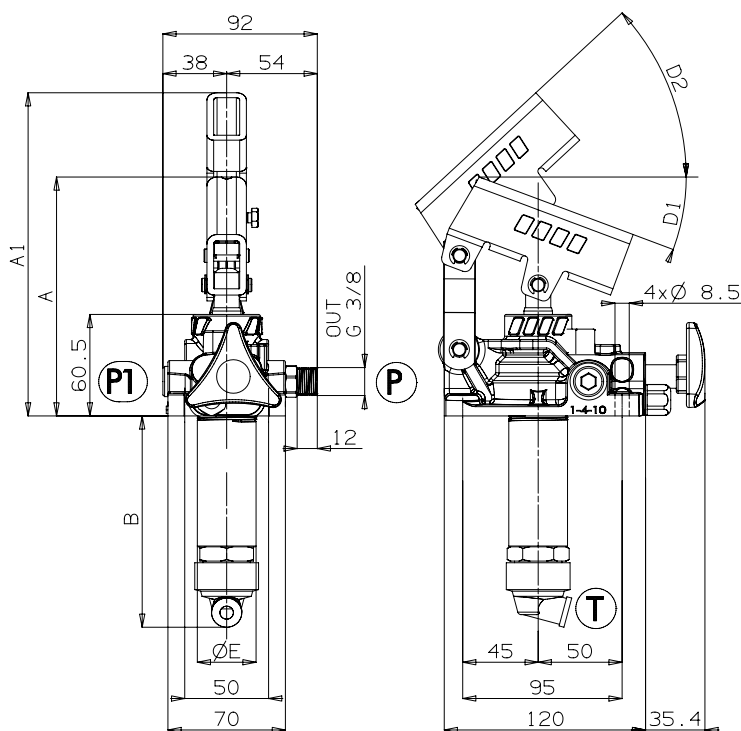
*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.*

*These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. They are available with nodular cast-iron body zinc plating+sealed and nickel-plated spool.*

**Codice di ordinazione (senza leva)**  
Order code (without lever)

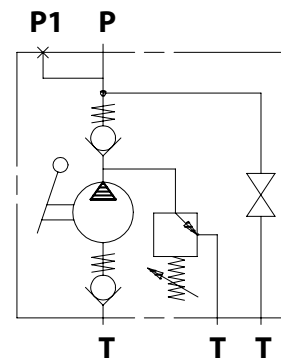
|  |    | FULCRO 12   | FULCRO 25   | FULCRO 45   |
|--|----|-------------|-------------|-------------|
| <b>Senza serbatoio</b><br>Without tank |    | 10601900013 | 10601000012 | 10601000021 |
| <b>Con serbatoio</b><br>With tank      | 1  | 10601800014 | 10600800016 | 10600900060 |
|  | 2  | 10601800023 | 10600800025 | 10600900051 |
|  | 3  | 10601800032 | 10600800034 | 10600900015 |
|  | 4  | 10601800036 | 10600800038 | 10600900079 |
|  | 5  | 10601800041 | 10600800043 | 10600900024 |
|  | 7  | 10601800050 | 10600800052 | 10600900033 |
|  | 10 | 10601800069 | 10600800061 | 10600900042 |

**Ingombro / Dimensions**

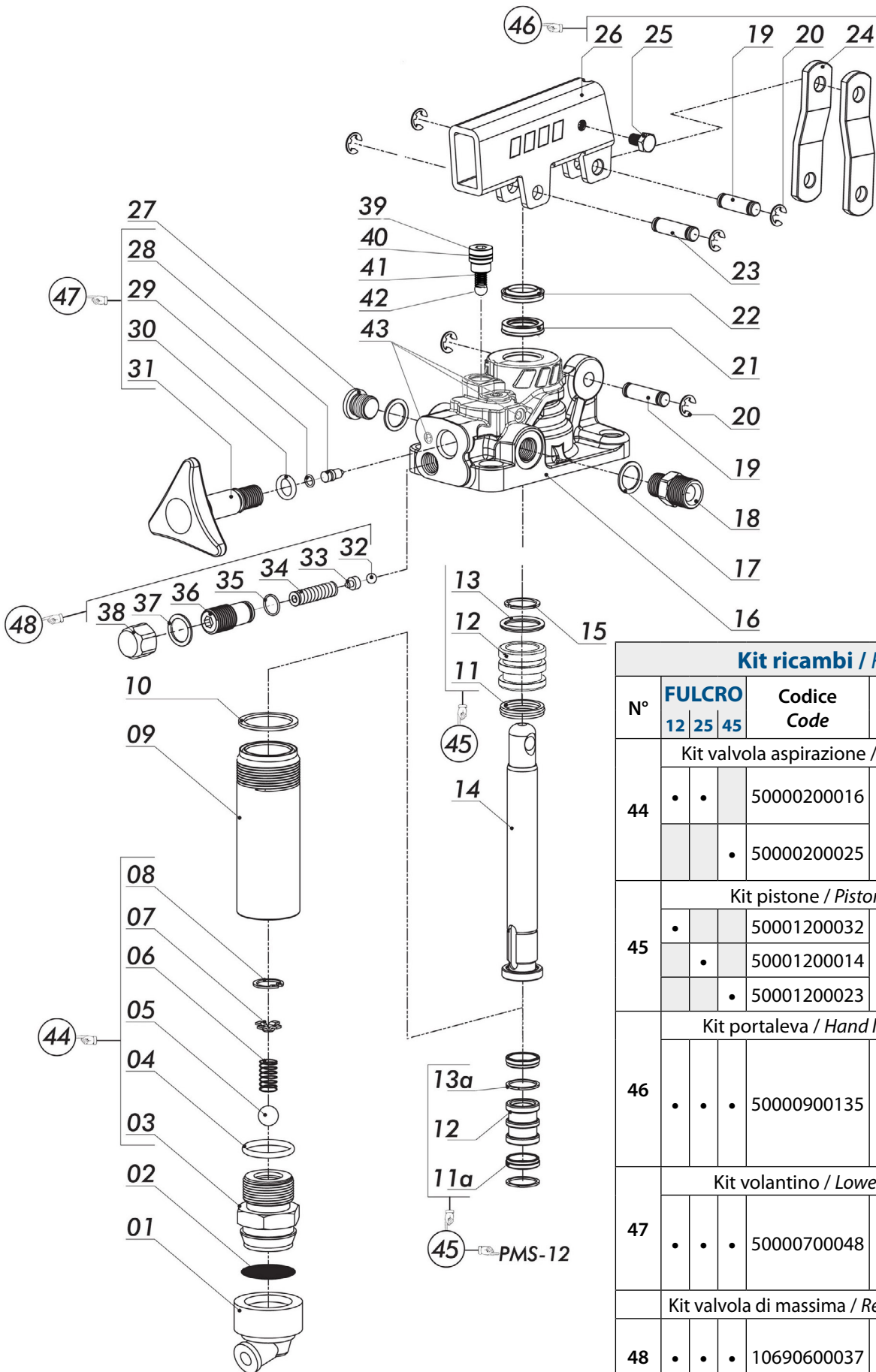


|                  | A   | A1  | B   | D1   | D2 | E  |
|------------------|-----|-----|-----|------|----|----|
|                  | mm  | mm  | mm  | °    | °  | mm |
| <b>FULCRO 12</b> | 143 | 187 | 120 | 18,5 | 45 | 35 |
| <b>FULCRO 25</b> | 142 | 193 | 127 | 20   | 45 | 35 |
| <b>FULCRO 45</b> | 141 | 193 | 138 | 20   | 45 | 42 |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



| Kit ricambi / Kit's                            |        |               |                 |
|--|--------|---------------|-----------------|
| N°   | FULCRO | Codice Code   | Gruppo Assembly |
| Kit valvola aspirazione / Suction valve kit    |        |               |                 |
| 44   | • •    | 50000200016   |                 |
|  |        | • 50000200025 |                 |
| Kit pistone / Piston assembly                  |        |               |                 |
| 45   | •      | 50001200032   |                 |
|  |        | • 50001200014 |                 |
|  |        | • 50001200023 |                 |
| Kit portaleva / Hand lever holder kit          |        |               |                 |
| 46   | • • •  | 50000900135   |                 |
| Kit volantino / Lowering valve kit             |        |               |                 |
| 47   | • • •  | 50000700048   |                 |
| Kit valvola di massima / Relief valve assembly |        |               |                 |
| 48   | • • •  | 10690600037   |                 |



| N°  | FULCRO |    |    | Codice Code   | Descrizione Description  | Q.                                |   |
|-----|--------|----|----|---------------|--|-----------------------------------|---|
|     | 12     | 25 | 45 |               |  |                                   |   |
| 1   | •      | •  | •  | 50600000392   | Guarnizione portafiltro<br><i>Suction cap</i>                              | 1                                 |   |
| 2   | •      | •  | •  | 55000100012   | Filtro acciaio rotondo<br><i>Steel strainer</i>                            | 1                                 |   |
| 3   | •      | •  | •  | 54000500019   | Corpo valvola di aspirazione<br><i>Suction valve casing</i>                | 1                                 |   |
|     |        |    | •  | 54000500037   |  |                                   |   |
| 4   | •      | •  | •  | 50600200201   | Guarnizione OR<br><i>O-ring</i>  | 1                                 |   |
|     |        |    | •  | 50600300095   |  |                                   |   |
| 5   | •      | •  | •  | 51000900116   | Sfera tenuta<br><i>Ball</i>  | 1                                 |   |
| 6   | •      | •  | •  | 51200500689   | Molla valvola di aspirazione<br><i>Spring for suction valve</i>            | 1                                 |   |
| 7   | •      | •  | •  | 55000100101   | Guidamolla<br><i>Spring-guide</i>  | 1                                 |   |
| 8   | •      | •  | •  | 50100100113   | Anello elastico<br><i>Circlip</i>  | 1                                 |   |
| 9   | •      | •  | •  | 53700200037   | Cilindro acciaio<br><i>Steel stem</i>                                      | 1                                 |   |
|     |        |    | •  | 53700200019   |  |                                   |   |
|     |        |    | •  | 53700200028   |  |                                   |   |
| 10  | •      | •  | •  | 11600901255   | Rondella tenuta cilindro<br><i>Washer</i>                                  | 1                                 |   |
|     |        |    | •  | 11600901308   |  |                                   |   |
| 11a | •      | •  | •  | 50600000516   | Guarnizione speciale<br><i>Special gasket</i>                              | 2                                 |   |
| 11  | •      | •  | •  | 50600000258   | Guarnizione speciale<br><i>Special gasket</i>                              | 1                                 |   |
|     |        |    | •  | 50600000267   |  |                                   |   |
| 12  | •      | •  | •  | 53200200082   | Pistone<br><i>Piston</i>   | 1                                 |   |
|     |        |    | •  | 53200200028   |  |                                   |   |
|     |        |    | •  | 53200200037   |  |                                   |   |
| 13a | •      | •  | •  | 550-004-00046 | Anello antiestrusore<br><i>Locking ring</i>                                | 2                                 |   |
| 13  | •      | •  | •  | 506-002-00158 | Guarnizione OR<br><i>O-ring</i>  | 1                                 |   |
|     |        |    | •  | 506-002-00229 |  |                                   |   |
| 14  | •      | •  | •  | 535-001-00121 | Stelo<br><i>Piston rod</i>   | 1                                 |   |
|     |        |    | •  | 535-001-00069 |  |                                   |   |
|     |        |    | •  | 535-001-00078 |  |                                   |   |
| 15  | •      | •  | •  | 501-011-00086 | Anello elastico<br><i>Circlip</i>  | 1                                 |   |
|     |        |    | •  | 501-011-00111 |  |                                   |   |
| 16  | •      | •  | •  | 501-011-00148 | Corpo pompa a mano<br><i>Hand pump housing</i>                             | 1                                 |   |
|     |        |    | •  | 517-001-00763 |  |                                   |   |
|     |        |    | •  | 517-001-00781 |  |                                   |   |
| 17  | •      | •  | •  | 116-009-00158 | Rondella utilizzi<br><i>Washer</i>   | 2                                 |   |
| 18  | •      | •  | •  | 116-006-00259 | Nipplo utilizzi<br><i>Pressure nipple</i>                                  | 1                                 |   |
| 19  | •      | •  | •  | 526-001-00095 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>                         | 2                                 |   |
| 20  | •      | •  | •  | •             | 501-015-00028  | Anello elastico<br><i>Circlip</i> | 6 |
|     |        |    |    | •             | 506-000-01926  |                                   |   |
| 21  | •      | •  | •  | 506-000-01935 | Guarnizione a labbro<br><i>Lip seal</i>                                    | 1                                 |   |
|     |        |    | •  | 506-000-01944 |  |                                   |   |
|     |        |    | •  | 506-000-02729 |  |                                   |   |
| 22  | •      | •  | •  | 506-000-02701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                            | 1                                 |   |
|     |        |    | •  | 506-000-02738 |  |                                   |   |
| 23  | •      | •  | •  | 526-001-00086 | Spinotto<br><i>Gudgeon Pin</i>   | 1                                 |   |
| 24  | •      | •  | •  | 538-001-00081 | Biella<br><i>Brackets</i>  | 2                                 |   |
| 25  | •      | •  | •  | 502-002-00012 | Vite blocco leva<br><i>Locking lever screw</i>                             | 1                                 |   |
| 26  | •      | •  | •  | 539-001-00212 | Portaleva<br><i>Lever holder</i>   | 1                                 |   |
| 27  | •      | •  | •  | 115-006-00117 | Tappo utilizzo<br><i>Pressure port plug</i>                                | 1                                 |   |
| 28  | •      | •  | •  | 543-004-00023 | Spillo tenuta<br><i>Pin</i>  | 1                                 |   |
| 29  | •      | •  | •  | 506-000-00589 | Guarnizione OR<br><i>O-ring</i>  | 1                                 |   |
| 30  | •      | •  | •  | 506-002-00014 | Guarnizione OR<br><i>O-ring</i>  | 1                                 |   |
| 31  | •      | •  | •  | 500-001-00357 | Volantino<br><i>Lowering wheel</i>   | 1                                 |   |
| 32  | •      | •  | •  | 510-009-00045 | Sfera tenuta valvola di massima<br><i>Relief valve sealing ball</i>        | 1                                 |   |
| 33  | •      | •  | •  | 542-001-00073 | Guidamolla<br><i>Spring-guide</i>  | 1                                 |   |
| 34  | •      | •  | •  | 512-005-01428 | Molla valvola di massima<br><i>Spring</i>                                  | 1                                 |   |
| 35  | •      | •  | •  | 506-019-10102 | Anello<br><i>O-ring</i>  | 1                                 |   |
| 36  | •      | •  | •  | 504-000-00458 | Grano registro valvola di massima<br><i>Setting screw for relief valve</i> | 1                                 |   |
| 37  | •      | •  | •  | 116-009-00201 | Rondella tenuta valvola di massima<br><i>Washer</i>                        | 1                                 |   |
| 38  | •      | •  | •  | 540-006-00116 | Tappo chiusura valvola di massima<br><i>Relief valve cover</i>             | 1                                 |   |
| 39  | •      | •  | •  | 540-003-00477 | Tappo valvola di ritegno<br><i>Plug</i>                                    | 1                                 |   |
| 40  | •      | •  | •  | 506-019-09150 | Guarnizione ORM 0090-15<br><i>ORM 0090-15</i>                              | 1                                 |   |
| 41  | •      | •  | •  | 512-005-00509 | Molla<br><i>Spring</i>   | 1                                 |   |
| 42  | •      | •  | •  | 510-009-00054 | Sfera 1/4" (Ø6.35)<br><i>Ball 1/4" (Ø6.35)</i>                             | 1                                 |   |
| 43  | •      | •  | •  | 504-010-00018 | Grano conico 1/16" NPTF<br><i>Conical plug 1/16" NPTF</i>                  | 3                                 |   |

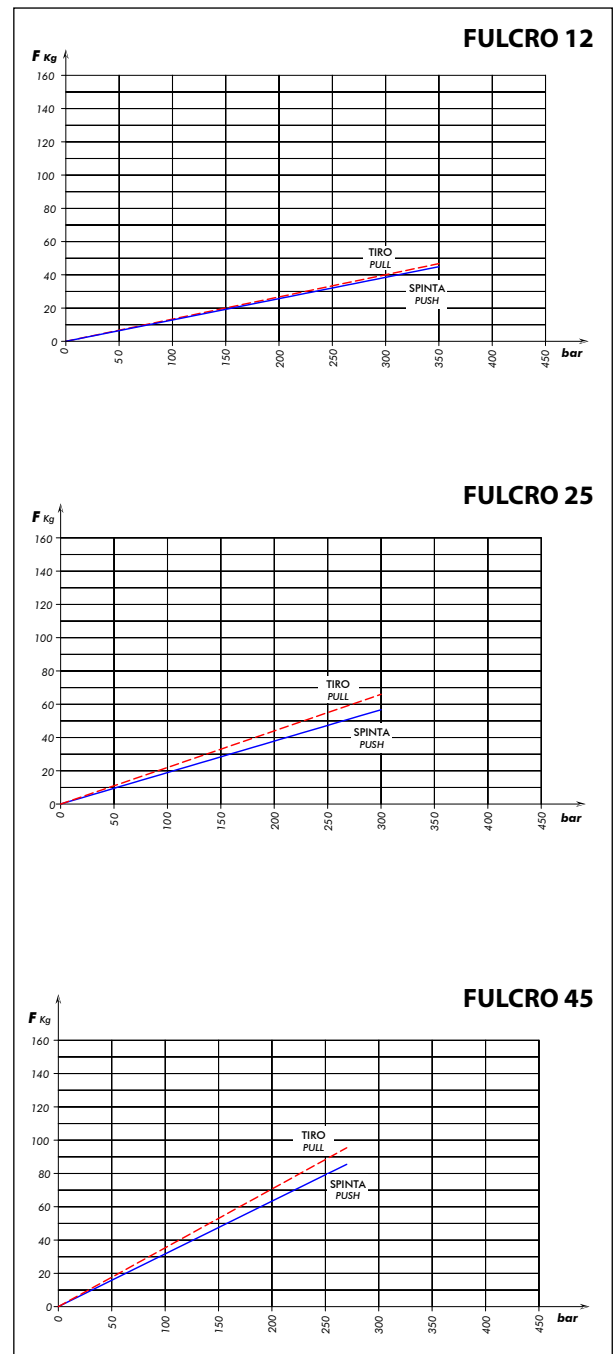
**Dati tecnici / Technical data**

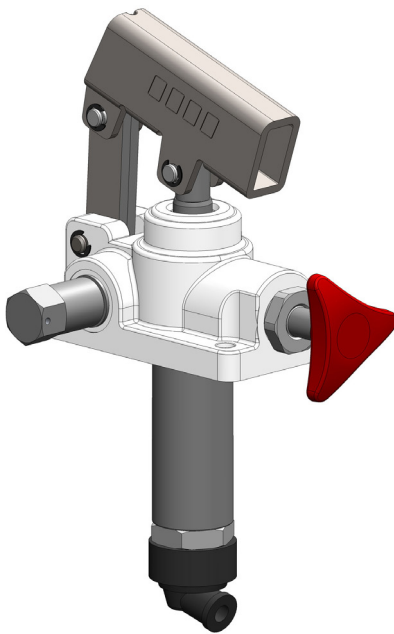
| Tipo pompa<br>Pump type | Taratura standard<br>Standard pressure setting<br>bar | Taratura massima<br>Max. pressure setting<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|---|--|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |   |  | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>FULCRO 12</b>        | 160   | 300  | 12                                 | 6,1                            | 5,9                              | 2,8                  |
| <b>FULCRO 25</b>        | 160   | 300  | 25                                 | 13,4                           | 11,6                             | 2,9                  |
| <b>FULCRO 45</b>        | 160   | 270  | 45                                 | 23,7                           | 21,3                             | 3,2                  |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690000408      | 10690000453      | 10690000506      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




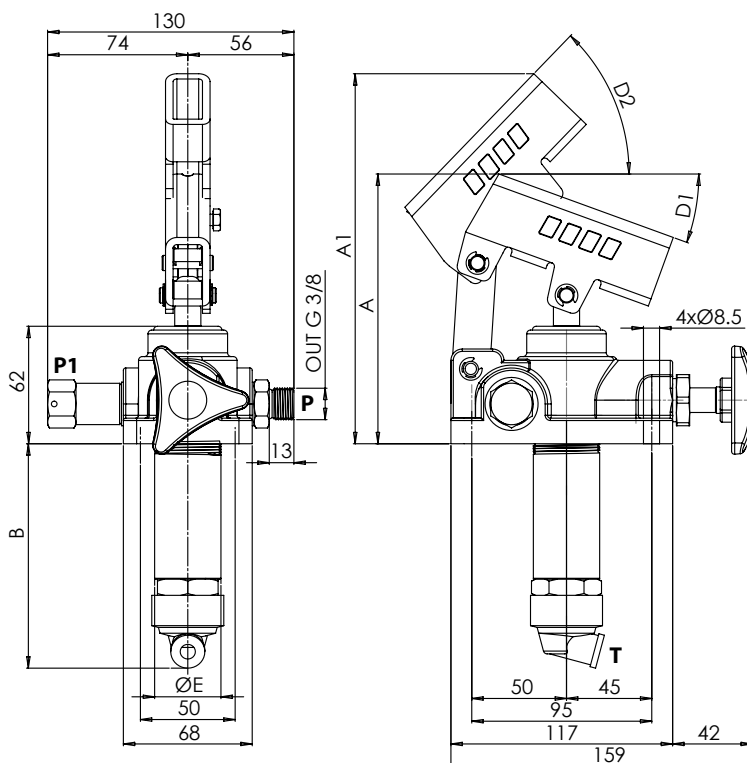
Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendolo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in alluminio e lo stelo nichelato.

*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve. These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. They are available with aluminium and nickel-plated spool.*

**Codice di ordinazione (senza leva)**  
*Order code (without lever)*

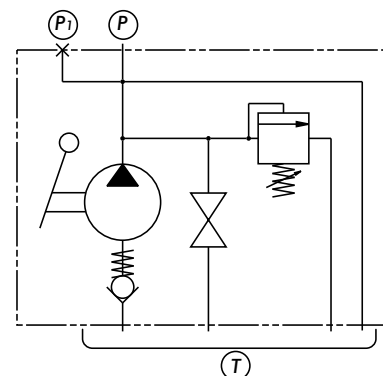
|   | <b>ALU 12</b> | <b>ALU 25</b> | <b>ALU 45</b> |
|---|---------------|---------------|---------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> | 10601900031   | 10601000058   | 10601000067   |

**Ingombro / Dimensions**

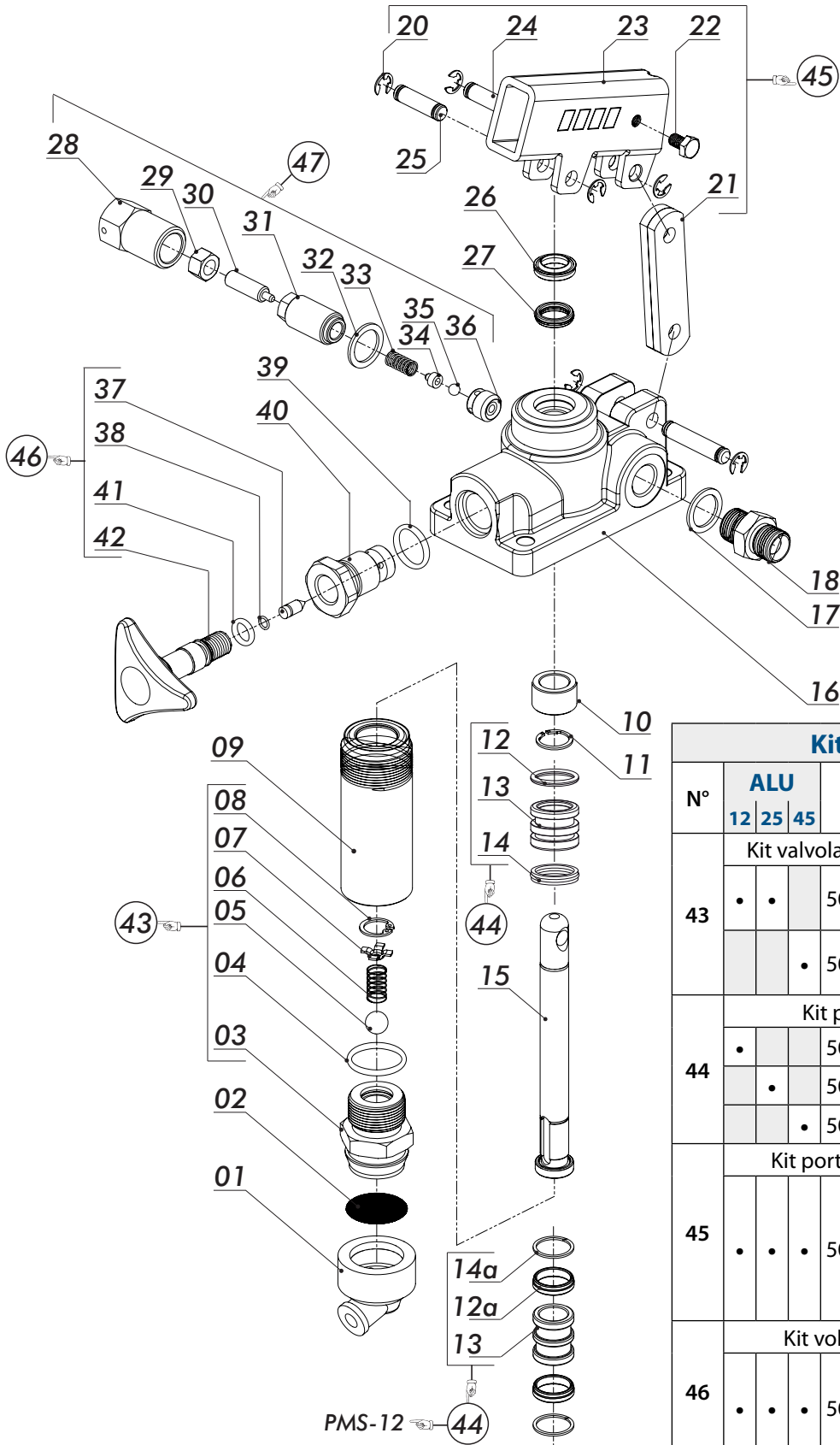


|               | <b>A</b>  | <b>A1</b> | <b>B</b>  | <b>D1</b> | <b>D2</b> | <b>E</b>  |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
|               | <i>mm</i> | <i>mm</i> | <i>mm</i> | <i>°</i>  | <i>°</i>  | <i>mm</i> |
| <b>ALU 12</b> | 143       | 184       | 120       | 18,5      | 45        | 35        |
| <b>ALU 25</b> | 143       | 192       | 127       | 20        | 45        | 35        |
| <b>ALU 45</b> | 142       | 192       | 138       | 22        | 45        | 42        |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



| Kit ricambi / Kit's                            |     |               |                 |
|--|-----|---------------|-----------------|
| N°   | ALU | Codice Code   | Gruppo Assembly |
| Kit valvola aspirazione / Suction valve kit    |     |               |                 |
| 43   | •   | 50000200016   |                 |
|  |     | • 50000200025 |                 |
| Kit pistone / Piston assembly                  |     |               |                 |
| 44   | •   | 50001200032   |                 |
|  |     | • 50001200014 |                 |
|  |     | • 50001200023 |                 |
| Kit portaleva / Hand lever holder kit          |     |               |                 |
| 45   | •   | • 50000900055 |                 |
| Kit volantino / Lowering valve kit             |     |               |                 |
| 46   | •   | • 50000700048 |                 |
| Kit valvola di massima / Relief valve assembly |     |               |                 |
| 47   | •   | • 10690600019 |                 |

| N°  | FULCRO |    |    | Codice Code   | Descrizione Description              | Q.                        |   |
|-----|--------|----|----|---------------|--------------------------------------|---------------------------|---|
|     | 12     | 25 | 45 |               |                                      |                           |   |
| 1   | •      | •  | •  | 506-000-00392 | Guarnizione portafiltro              | Suction cap               | 1 |
| 2   | •      | •  | •  | 550-001-00012 | Filtro acciaio rotondo               | Steel strainer            | 1 |
| 3   | •      | •  | •  | 540-005-00019 | Corpo valvola di aspirazione         | Suction valve casing      | 1 |
|     |        |    |    | 540-005-00037 |                                      |                           |   |
| 4   | •      | •  | •  | 506-002-00201 | Guarnizione OR                       | O-ring                    | 1 |
|     |        |    |    | 506-003-00095 |                                      |                           |   |
| 5   | •      | •  | •  | 510-009-00116 | Sfera tenuta                         | Ball                      | 1 |
| 6   | •      | •  | •  | 512-005-00689 | Molla valvola di aspirazione         | Spring for suction valve  | 1 |
| 7   | •      | •  | •  | 550-001-00101 | Guidamolla                           | Spring-guide              | 1 |
| 8   | •      | •  | •  | 501-001-00113 | Anello elastico                      | Circlip                   | 1 |
| 9   | •      | •  | •  | 537-002-00037 | Cilindro acciaio                     | Steel stem                | 1 |
|     |        |    |    | 537-002-00019 |                                      |                           |   |
|     |        |    |    | 537-002-00028 |                                      |                           |   |
| 10  | •      | •  | •  | 530-005-00065 | Distanziale                          | Spacer                    | 1 |
|     |        |    |    | 530-005-00010 |                                      |                           |   |
|     |        |    |    | 530-005-00029 |                                      |                           |   |
| 11  | •      | •  | •  | 501-011-00086 | Anello elastico                      | Circlip                   | 1 |
|     |        |    |    | 501-011-00111 |                                      |                           |   |
|     |        |    |    | 501-011-00148 |                                      |                           |   |
| 12a | •      | •  | •  | 506-000-00516 | Guarnizione speciale                 | Special gasket            | 2 |
| 12  | •      | •  | •  | 506-000-00258 | Guarnizione speciale                 | Special gasket            | 1 |
|     |        |    |    | 506-000-00267 |                                      |                           |   |
| 13  | •      | •  | •  | 532-002-00082 | Pistone                              | Piston                    | 1 |
|     |        |    |    | 532-002-00028 |                                      |                           |   |
|     |        |    |    | 532-002-00037 |                                      |                           |   |
| 14a | •      | •  | •  | 550-004-00046 | Anello antiestrusore                 | Locking ring              | 2 |
| 14  | •      | •  | •  | 506-002-00158 | Guarnizione OR                       | O-ring                    | 1 |
|     |        |    |    | 506-002-00229 |                                      |                           |   |
| 15  | •      | •  | •  | 535-001-00121 | Stelo                                | Piston rod                | 1 |
|     |        |    |    | 535-001-00069 |                                      |                           |   |
|     |        |    |    | 535-001-00078 |                                      |                           |   |
| 16  | •      | •  | •  | 517-001-00325 | Corpo pompa a mano                   | Hand pump housing         | 1 |
|     |        |    |    | 517-001-00343 |                                      |                           |   |
|     |        |    |    | 517-001-00361 |                                      |                           |   |
| 17  | •      | •  | •  | 116-009-00309 | Rondella utilizzi                    | Washer                    | 1 |
| 18  | •      | •  | •  | 116-006-00080 | Nipplo utilizzi                      | Pressure nipple           | 1 |
| 19  | •      | •  | •  | 526-001-00013 | Spinotto lunghezza 41mm              | Gudgeon Pin 41mm          | 1 |
| 20  | •      | •  | •  | 501-015-00028 | Anello elastico                      | Circlip                   | 6 |
| 21  | •      | •  | •  | 538-001-00018 | Biella                               | Brackets                  | 2 |
| 22  | •      | •  | •  | 502-002-00012 | Vite blocco leva                     | Locking lever screw       | 1 |
| 23  | •      | •  | •  | 539-001-00212 | Portaleva                            | Lever holder              | 1 |
| 24  | •      | •  | •  | 526-001-00095 | Spinotto lunghezza 27mm              | Gudgeon Pin 27mm          | 1 |
| 25  | •      | •  | •  | 526-001-00086 | Spinotto lunghezza 30mm              | Gudgeon Pin 30mm          | 1 |
| 26  | •      | •  | •  | 50600002729   | Guarnizione raschiapolvere           | Wiper seal                | 1 |
|     |        |    |    | 50600002701   |                                      |                           |   |
|     |        |    |    | 50600002738   |                                      |                           |   |
| 27  | •      | •  | •  | 50600001926   | Guarnizione a labbro                 | Lip seal                  | 1 |
|     |        |    |    | 50600001935   |                                      |                           |   |
|     |        |    |    | 50600001944   |                                      |                           |   |
| 28  | •      | •  | •  | 540-006-00045 | Tappo di chiusura valvola di massima | Relief valve plug         | 1 |
| 29  | •      | •  | •  | 505-003-00015 | Dado M8 chiave 13 H=8                | M8 nut spanner 13 H=8     | 1 |
| 30  | •      | •  | •  | 504-000-00127 | Grano di registro                    | Adjustment grub screw     | 1 |
| 31  | •      | •  | •  | 504-000-00118 | Grano di blocco                      | End stroke grub screw     | 1 |
| 32  | •      | •  | •  | 116-009-00309 | Rondella utilizzi                    | Washer                    | 1 |
| 33  | •      | •  | •  | 512-005-00483 | Molla                                | Spring                    | 1 |
| 34  | •      | •  | •  | 542-001-00073 | Pistoncino guida molla               | Spring guide piston       | 1 |
| 35  | •      | •  | •  | 510-009-00045 | Sfera 7/32"                          | Ball 7/32"                | 1 |
| 36  | •      | •  | •  | 547-001-00064 | Corpo guida                          | Body guide                | 1 |
| 37  | •      | •  | •  | 543-004-00023 | Spillo tenuta                        | Pin                       | 1 |
| 38  | •      | •  | •  | 506-000-00589 | Guarnizione O-R                      | O-ring                    | 1 |
| 39  | •      | •  | •  | 506-002-00130 | Guarnizione O-R                      | O-ring                    | 1 |
| 40  | •      | •  | •  | 540-005-00162 | Tappo guida volantino                | Lowering wheel guide plug | 1 |
| 41  | •      | •  | •  | 506-002-00014 | Guarnizione OR                       | O-ring                    | 1 |
| 42  | •      | •  | •  | 500-001-00357 | Volantino                            | Lowering wheel            | 1 |



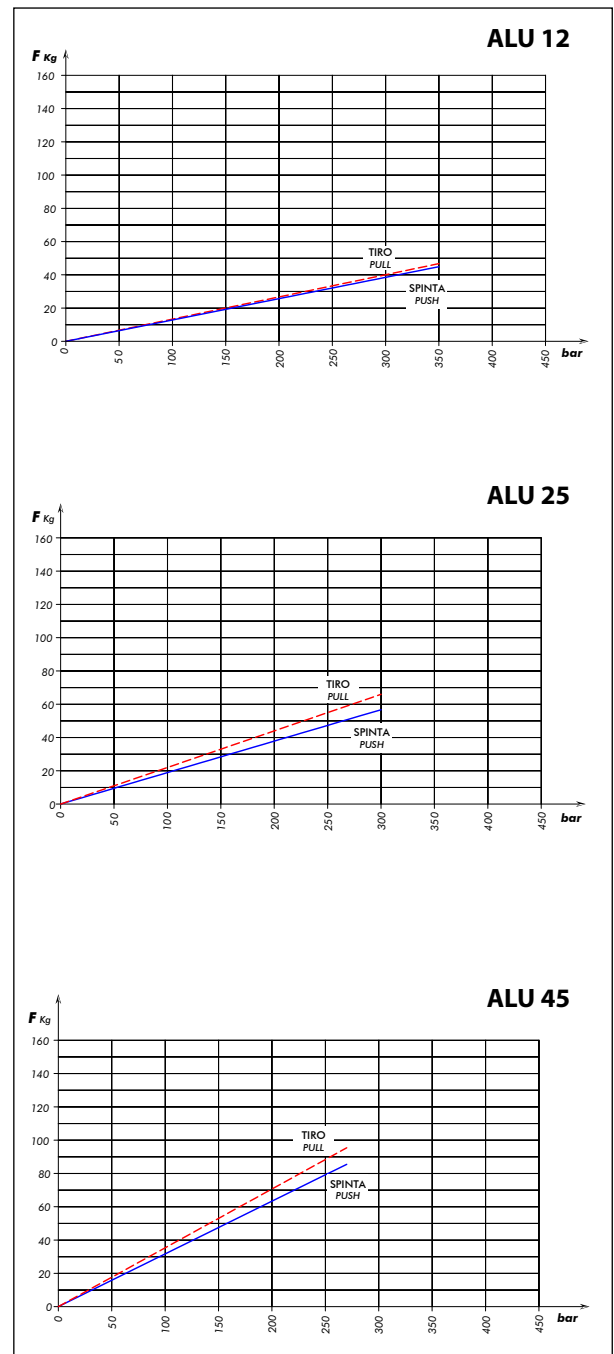
**Dati tecnici / Technical data**

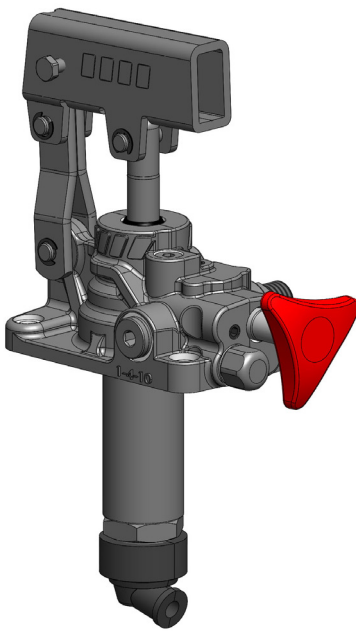
| Tipo pompa<br>Pump type | Taratura standard<br>Standard pressure setting<br>bar | Taratura massima<br>Max. pressure setting<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|---|--|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |   |  | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>ALU 12</b>           | 160   | 300  | 12                                 | 6,1                            | 5,9                              | 2,8                  |
| <b>ALU 25</b>           | 160   | 300  | 25                                 | 13,4                           | 11,6                             | 2,9                  |
| <b>ALU 45</b>           | 160   | 270  | 45                                 | 23,7                           | 21,3                             | 3,2                  |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690000702      | 10690000757      | 10690000800      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




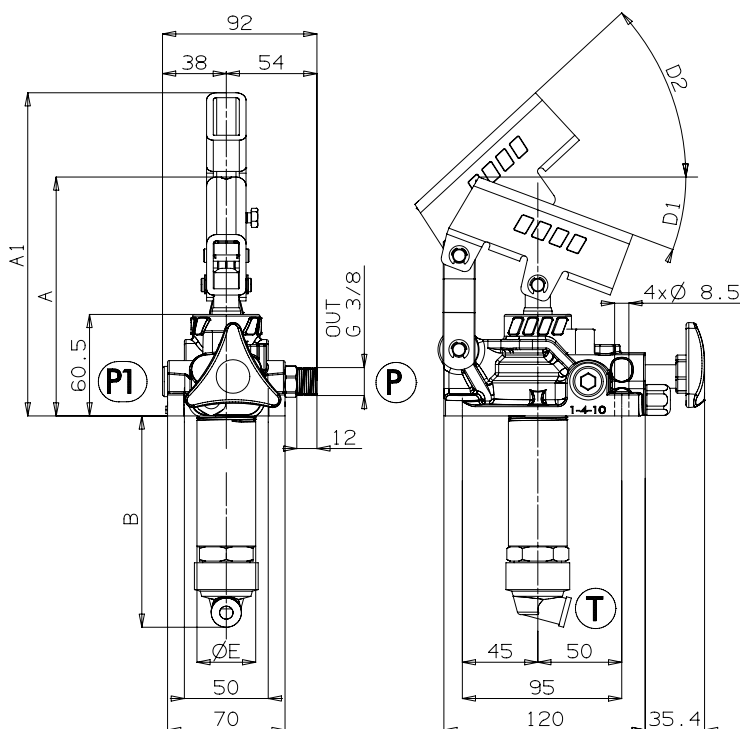
Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendolo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. **TRATTAMENTO ALTA RESISTENZA ALLA CORROSIONE (700 ore in nebbia salina).**

*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.*

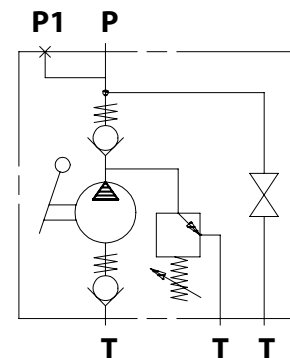
*These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **HIGH RESISTANCE TREATMENT AGAINST CORROSION (Salt spray test=700 hours).***

**Codice di ordinazione (senza leva)**
*Order code (without lever)*

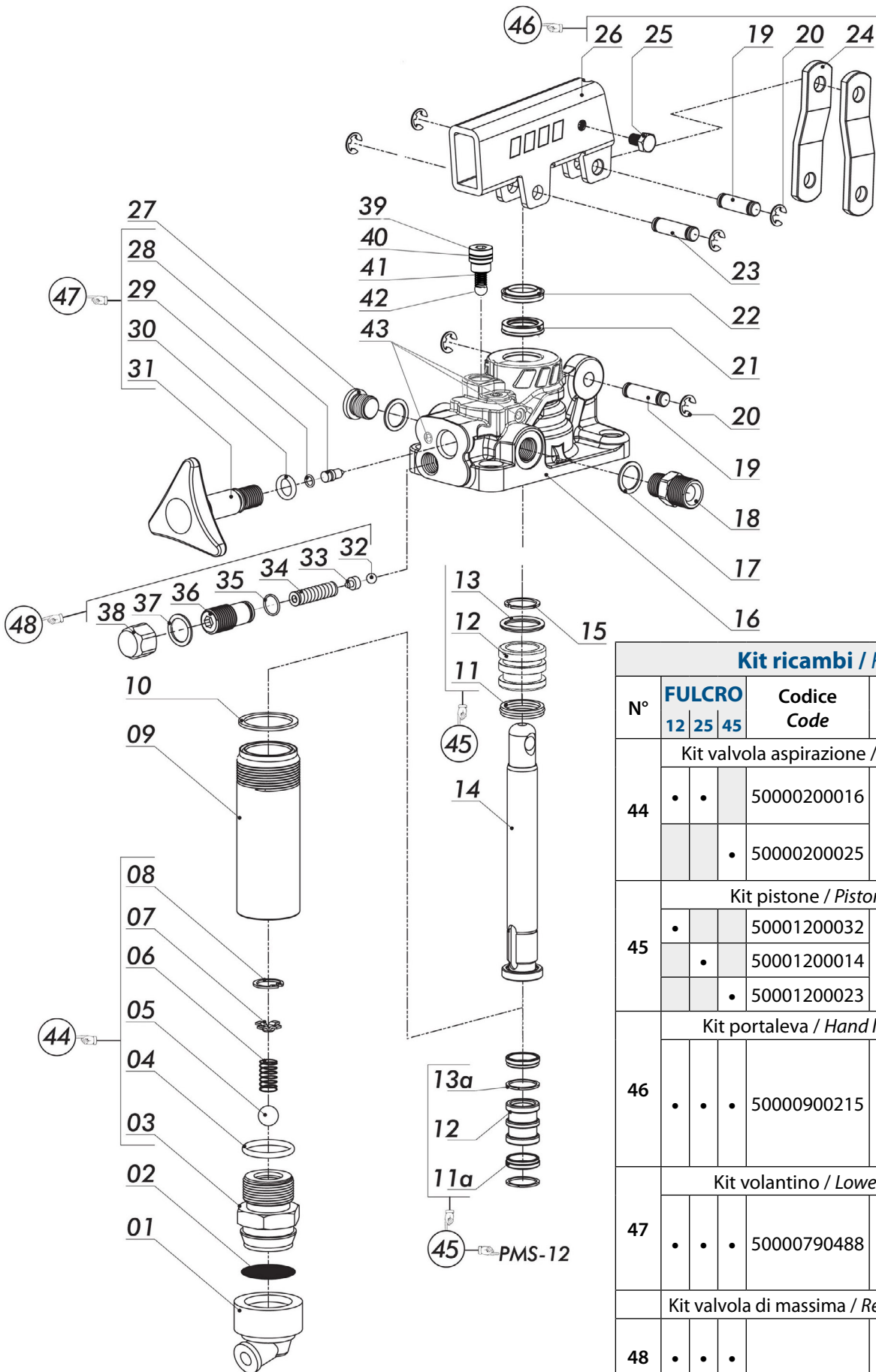
|   | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|---|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> | 10602301123      | 10602301258      | 10602301454      |

**Ingombro / Dimensions**


|                  | <b>A</b>  | <b>A1</b> | <b>B</b>  | <b>D1</b> | <b>D2</b> | <b>E</b>  |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  | <i>mm</i> | <i>mm</i> | <i>mm</i> | <i>°</i>  | <i>°</i>  | <i>mm</i> |
| <b>FULCRO 12</b> | 143       | 187       | 120       | 18,5      | 45        | 35        |
| <b>FULCRO 25</b> | 142       | 193       | 127       | 20        | 45        | 35        |
| <b>FULCRO 45</b> | 141       | 193       | 138       | 20        | 45        | 42        |

**Schema idraulico / Hydraulic layout**


Schema ricambio / Spare parts



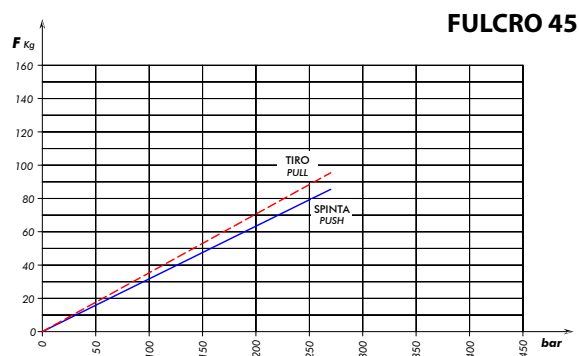
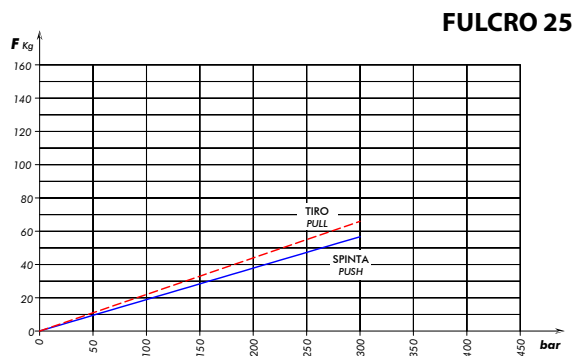
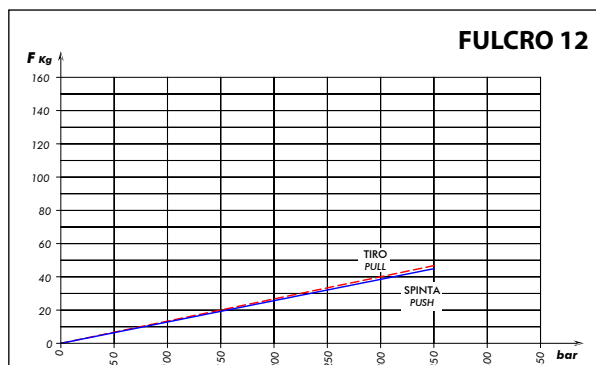
| Kit ricambi / Kit's                            |                    |                |                    |
|--|--------------------|----------------|--------------------|
| N°   | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit    |                    |                |                    |
| 44   | • •                | 50000200016    |                    |
|  |                    | • 50000200025  |                    |
| Kit pistone / Piston assembly                  |                    |                |                    |
| 45   | •                  | 50001200032    |                    |
|  |                    | • 50001200014  |                    |
|  |                    | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit          |                    |                |                    |
| 46   | • • •              | 50000900215    |                    |
| Kit volantino / Lowering valve kit             |                    |                |                    |
| 47   | • • •              | 50000790488    |                    |
| Kit valvola di massima / Relief valve assembly |                    |                |                    |
| 48   | • • •              |                |                    |

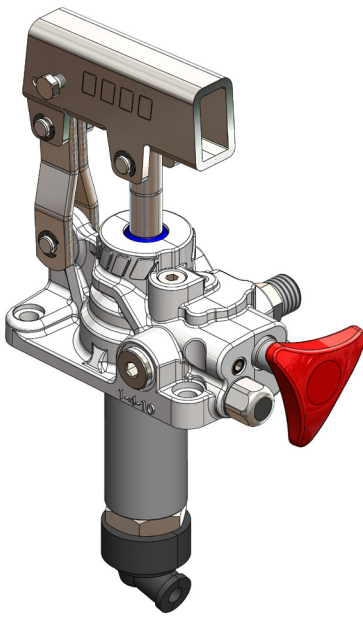
| N°  | FULCRO |    |    | Codice Code | Descrizione Description  | Q. |
|-----|--------|----|----|-------------|--|----|
|     | 12     | 25 | 45 |             |  |    |
| 1   | •      | •  | •  | 5060000392  | Guarnizione portafiltro<br><i>Suction cap</i>                              | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                            | 1  |
| 3   | •      | •  | •  | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>                | 1  |
|     |        |    |    | 54000500037 |  |    |
| 4   | •      | •  | •  | 50600200201 | Guarnizione OR<br><i>O-ring</i>  | 1  |
|     |        |    |    | 50600300095 |  |    |
| 5   | •      | •  | •  | 51000900116 | Sfera tenuta<br><i>Ball</i>  | 1  |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i>            | 1  |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>  | 1  |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>  | 1  |
| 9   | •      | •  | •  | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                                      | 1  |
|     |        |    |    | 53700200019 |  |    |
|     |        |    |    | 53700200028 |  |    |
| 10  | •      | •  | •  | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                                  | 1  |
|     |        |    |    | 11600901308 |  |    |
| 11a | •      | •  | •  | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                              | 2  |
| 11  | •      | •  | •  | 50600000258 | Guarnizione speciale<br><i>Special gasket</i>                              | 1  |
|     |        |    |    | 50600000267 |  |    |
| 12  | •      | •  | •  | 53200200082 | Pistone<br><i>Piston</i>   | 1  |
|     |        |    |    | 53200200028 |  |    |
|     |        |    |    | 53200200037 |  |    |
| 13a | •      | •  | •  | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                                | 2  |
| 13  | •      | •  | •  | 50600200158 | Guarnizione OR<br><i>O-ring</i>  | 1  |
|     |        |    |    | 50600200229 |  |    |
| 14  | •      | •  | •  | 53500100121 | Stelo<br><i>Piston rod</i>   | 1  |
|     |        |    |    | 53500100069 |  |    |
|     |        |    |    | 53500100078 |  |    |
| 15  | •      | •  | •  | 50101100086 | Anello elastico<br><i>Circlip</i>  | 1  |
|     |        |    |    | 50101100111 |  |    |
| 16  | •      | •  | •  | 51700129760 | Corpo pompa a mano<br><i>Hand pump housing</i>                             | 1  |
|     |        |    |    | 51700197811 |  |    |
|     |        |    |    | 51700198070 |  |    |
| 17  | •      | •  | •  | 11600900158 | Rondella utilizzi<br><i>Washer</i>   | 2  |
| 18  | •      | •  | •  | 11600692599 | Nipplo utilizzi<br><i>Pressure nipple</i>                                  | 1  |
| 19  | •      | •  | •  | 52600190953 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>                         | 2  |
| 20  | •      | •  | •  | 50101590280 | Anello elastico<br><i>Circlip</i>  | 6  |
|     |        |    |    | 50600001926 |  |    |
| 21  | •      | •  | •  | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                                    | 1  |
|     |        |    |    | 50600001944 |  |    |
|     |        |    |    | 50600002729 |  |    |
| 22  | •      | •  | •  | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                            | 1  |
|     |        |    |    | 50600002738 |  |    |
| 23  | •      | •  | •  | 52600190864 | Spinotto<br><i>Gudgeon Pin</i>   | 1  |
| 24  | •      | •  | •  | 53800190814 | Biella<br><i>Brackets</i>  | 2  |
| 25  | •      | •  | •  | 50200290121 | Vite blocco leva<br><i>Locking lever screw</i>                             | 1  |
| 26  | •      | •  | •  | 53900192123 | Portaleva<br><i>Lever holder</i>   | 1  |
| 27  | •      | •  | •  | 11500691172 | Tappo utilizzo<br><i>Pressure port plug</i>                                | 1  |
| 28  | •      | •  | •  | 54300400023 | Spillo tenuta<br><i>Pin</i>  | 1  |
| 29  | •      | •  | •  | 50600000589 | Guarnizione OR<br><i>O-ring</i>  | 1  |
| 30  | •      | •  | •  | 50600200014 | Guarnizione OR<br><i>O-ring</i>  | 1  |
| 31  | •      | •  | •  | 50000193570 | Volantino<br><i>Lowering wheel</i>   | 1  |
| 32  | •      | •  | •  | 51000900045 | Sfera tenuta valvola di massima<br><i>Relief valve sealing ball</i>        | 1  |
| 33  | •      | •  | •  | 54200100073 | Guidamolla<br><i>Spring-guide</i>  | 1  |
| 34  | •      | •  | •  | 51200501428 | Molla valvola di massima<br><i>Spring</i>                                  | 1  |
| 35  | •      | •  | •  | 50601910102 | Anello<br><i>O-ring</i>  | 1  |
| 36  | •      | •  | •  | 50400000458 | Grano registro valvola di massima<br><i>Setting screw for relief valve</i> | 1  |
| 37  | •      | •  | •  | 11600900201 | Rondella tenuta valvola di massima<br><i>Washer</i>                        | 1  |
| 38  | •      | •  | •  | 54000691162 | Tappo chiusura valvola di massima<br><i>Relief valve cover</i>             | 1  |
| 39  | •      | •  | •  | 54000394779 | Tappo valvola di ritegno<br><i>Plug</i>                                    | 1  |
| 40  | •      | •  | •  | 50601909150 | Guarnizione ORM 0090-15<br><i>ORM 0090-15</i>                              | 1  |
| 41  | •      | •  | •  | 51200500509 | Molla<br><i>Spring</i>   | 1  |
| 42  | •      | •  | •  | 51000900054 | Sfera 1/4" (Ø6.35)<br><i>Ball 1/4" (Ø6.35)</i>                             | 1  |
| 43  | •      | •  | •  | 50401090181 | Grano conico 1/16" NPTF<br><i>Conical plug 1/16" NPTF</i>                  | 3  |

**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Taratura standard<br>Standard pressure setting<br>bar | Taratura massima<br>Max. pressure setting<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|---|--|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |   |  | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>FULCRO 12</b>        | 160   | 300  | 12                                 | 6,1                            | 5,9                              | 2,8                  |
| <b>FULCRO 25</b>        | 160   | 300  | 25                                 | 13,4                           | 11,6                             | 2,9                  |
| <b>FULCRO 45</b>        | 160   | 270  | 45                                 | 23,7                           | 21,3                             | 3,2                  |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a semplice effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione.

**BASSE TEMPERATURE -40°C.**

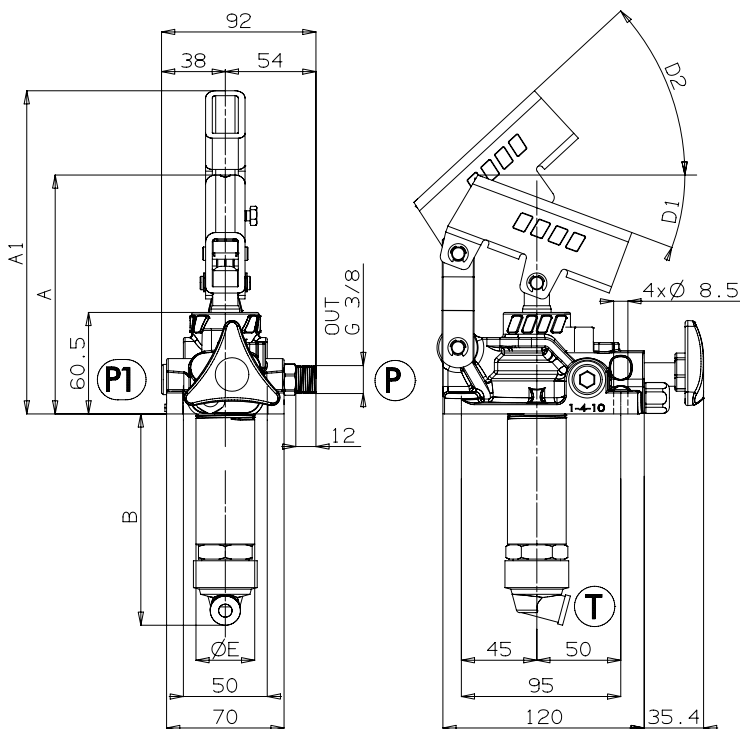
Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate single acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.

These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **LOW TEMPERATURE -40°C.**

**Codice di ordinazione (senza leva)**  
Order code (without lever)

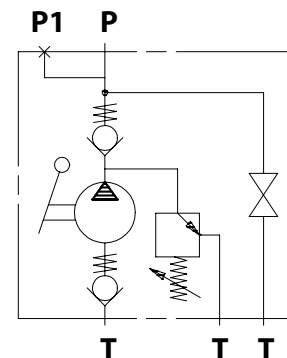
|  | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|--|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br>Without tank | 10690319137      | 10690310127      | 10690310216      |

**Ingombro / Dimensions**



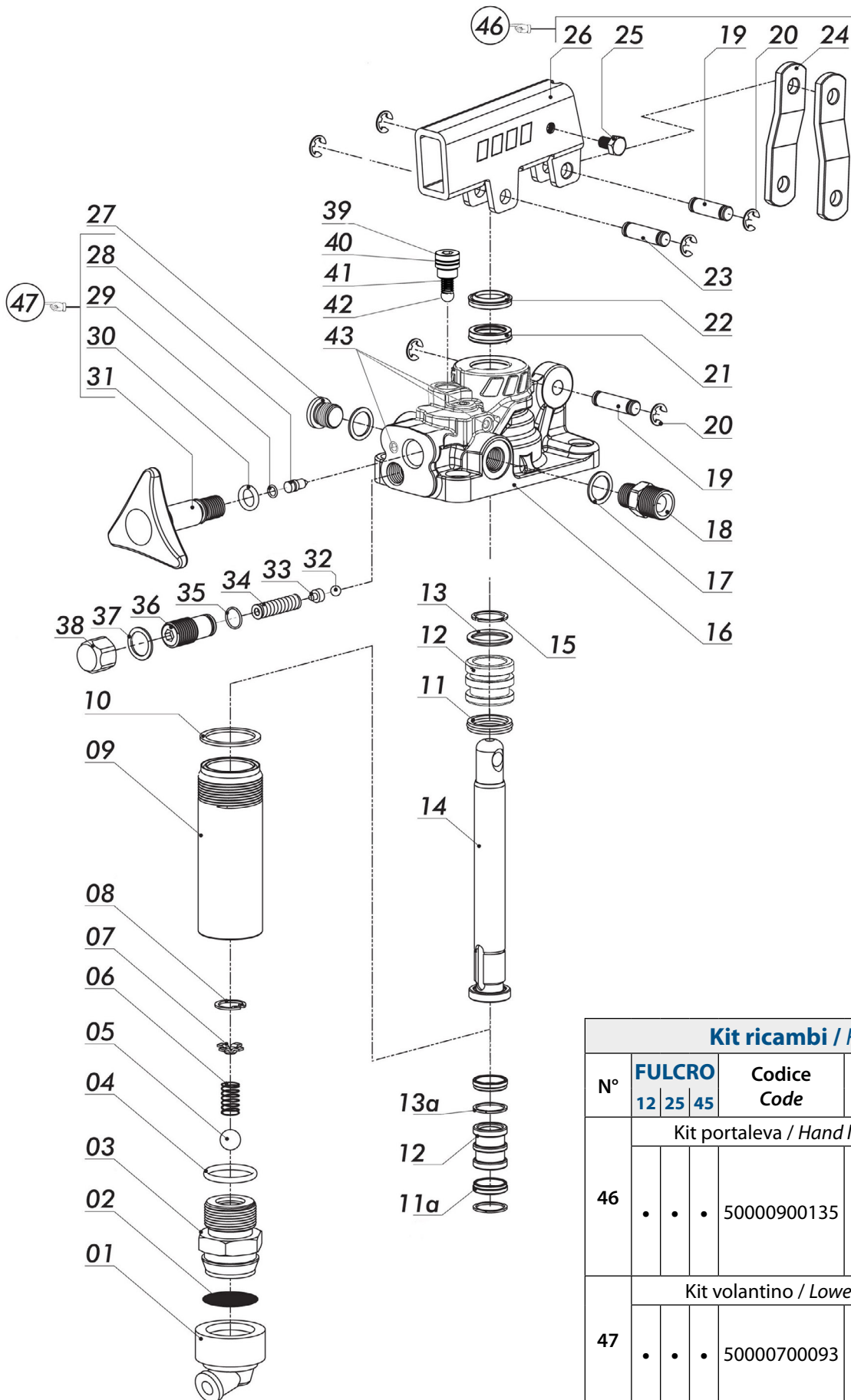
|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

**Schema idraulico / Hydraulic layout**





Schema ricambio / Spare parts



| Kit ricambi / Kit's                   |                        |                |                    |
|---------------------------------------|------------------------|----------------|--------------------|
| N°                                    | FULCRO<br>12   25   45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit portaleva / Hand lever holder kit |                        |                |                    |
| 46                                    | • • •                  | 50000900135    |                    |
| Kit volantino / Lowering valve kit    |                        |                |                    |
| 47                                    | • • •                  | 50000700093    |                    |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description  | Q. |
|-----|--------|----|----|-------------|--|----|
|     | 12     | 25 | 45 |             |  |    |
| 1   | .      | .  | .  | 5060000427  | Guarnizione portafiltro<br><i>Suction cap</i>                              | 1  |
| 2   | .      | .  | .  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                            | 1  |
| 3   | .      | .  | .  | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>                | 1  |
|     | .      | .  | .  | 54000500037 |  |    |
| 4   | .      | .  | .  | 50600000802 | Guarnizione OR<br><i>O-ring</i>  | 1  |
|     | .      | .  | .  | 50600000972 |  |    |
| 5   | .      | .  | .  | 51000900116 | Sfera tenuta<br><i>Ball</i>  | 1  |
| 6   | .      | .  | .  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i>            | 1  |
| 7   | .      | .  | .  | 55000100101 | Guidamolla<br><i>Spring-guide</i>  | 1  |
| 8   | .      | .  | .  | 50100100113 | Anello elastico<br><i>Circlip</i>  | 1  |
| 9   | .      | .  | .  | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                                      | 1  |
|     | .      | .  | .  | 53700200019 |  |    |
|     | .      | .  | .  | 53700200028 |  |    |
| 10  | .      | .  | .  | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                                  | 1  |
|     | .      | .  | .  | 11600901308 |  |    |
| 11a | .      | .  | .  | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                              | 2  |
| 11  | .      | .  | .  | 50600000954 | Guarnizione speciale<br><i>Special gasket</i>                              | 1  |
|     | .      | .  | .  | 50600000267 |  |    |
| 12  | .      | .  | .  | 53200200082 | Pistone<br><i>Piston</i>   | 1  |
|     | .      | .  | .  | 53200200028 |  |    |
|     | .      | .  | .  | 53200200037 |  |    |
| 13a | .      | .  | .  | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                                | 2  |
| 13  | .      | .  | .  | 50600000945 | Guarnizione OR<br><i>O-ring</i>  | 1  |
|     | .      | .  | .  | 50600000990 |  |    |
| 14  | .      | .  | .  | 53500100121 | Stelo<br><i>Piston rod</i>   | 1  |
|     | .      | .  | .  | 53500100069 |  |    |
|     | .      | .  | .  | 53500100078 |  |    |
| 15  | .      | .  | .  | 50101100086 | Anello elastico<br><i>Circlip</i>  | 1  |
|     | .      | .  | .  | 50101100111 |  |    |
| 16  | .      | .  | .  | 51700100763 | Corpo pompa a mano<br><i>Hand pump housing</i>                             | 1  |
|     | .      | .  | .  | 51700100781 |  |    |
|     | .      | .  | .  | 51700100807 |  |    |
| 17  | .      | .  | .  | 11600900158 | Rondella utilizzi<br><i>Washer</i>   | 2  |
| 18  | .      | .  | .  | 11600600259 | Nipplo utilizzi<br><i>Pressure nipple</i>                                  | 1  |
| 19  | .      | .  | .  | 52600100095 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>                         | 2  |
| 20  | .      | .  | .  | 50101500028 | Anello elastico<br><i>Circlip</i>  | 6  |
|     | .      | .  | .  | 50600001926 |  |    |
| 21  | .      | .  | .  | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                                    | 1  |
|     | .      | .  | .  | 50600001944 |  |    |
|     | .      | .  | .  | 50600002729 |  |    |
| 22  | .      | .  | .  | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                            | 1  |
|     | .      | .  | .  | 50600002738 |  |    |
| 23  | .      | .  | .  | 52600100086 | Spinotto<br><i>Gudgeon Pin</i>   | 1  |
| 24  | .      | .  | .  | 53800100081 | Biella<br><i>Brackets</i>  | 2  |
| 25  | .      | .  | .  | 50200200012 | Vite blocco leva<br><i>Locking lever screw</i>                             | 1  |
| 26  | .      | .  | .  | 53900100212 | Portaleva<br><i>Lever holder</i>   | 1  |
| 27  | .      | .  | .  | 11500600117 | Tappo utilizzo<br><i>Pressure port plug</i>                                | 1  |
| 28  | .      | .  | .  | 54300400023 | Spillo tenuta<br><i>Pin</i>  | 1  |
| 29  | .      | .  | .  | 50600001033 | Guarnizione OR<br><i>O-ring</i>  | 1  |
| 30  | .      | .  | .  | 50600001800 | Guarnizione OR<br><i>O-ring</i>  | 1  |
| 31  | .      | .  | .  | 50000100357 | Volantino<br><i>Lowering wheel</i>   | 1  |
| 32  | .      | .  | .  | 51000900045 | Sfera tenuta valvola di massima<br><i>Relief valve sealing ball</i>        | 1  |
| 33  | .      | .  | .  | 54200100073 | Guidamolla<br><i>Spring-guide</i>  | 1  |
| 34  | .      | .  | .  | 51200501428 | Molla valvola di massima<br><i>Spring</i>                                  | 1  |
| 35  | .      | .  | .  | 50600011010 | Anello<br><i>O-ring</i>  | 1  |
| 36  | .      | .  | .  | 50400000458 | Grano registro valvola di massima<br><i>Setting screw for relief valve</i> | 1  |
| 37  | .      | .  | .  | 11600900201 | Rondella tenuta valvola di massima<br><i>Washer</i>                        | 1  |
| 38  | .      | .  | .  | 54000600116 | Tappo chiusura valvola di massima<br><i>Relief valve cover</i>             | 1  |
| 39  | .      | .  | .  | 54000300477 | Tappo valvola di ritegno<br><i>Plug</i>                                    | 1  |
| 40  | .      | .  | .  | 50600010915 | Guarnizione ORM 0090-15<br><i>ORM 0090-15</i>                              | 1  |
| 41  | .      | .  | .  | 51200500509 | Molla<br><i>Spring</i>   | 1  |
| 42  | .      | .  | .  | 51000900054 | Sfera 1/4" (Ø6.35)<br><i>Ball 1/4" (Ø6.35)</i>                             | 1  |
| 43  | .      | .  | .  | 50401000018 | Grano conico 1/16" NPTF<br><i>Conical plug 1/16" NPTF</i>                  | 3  |

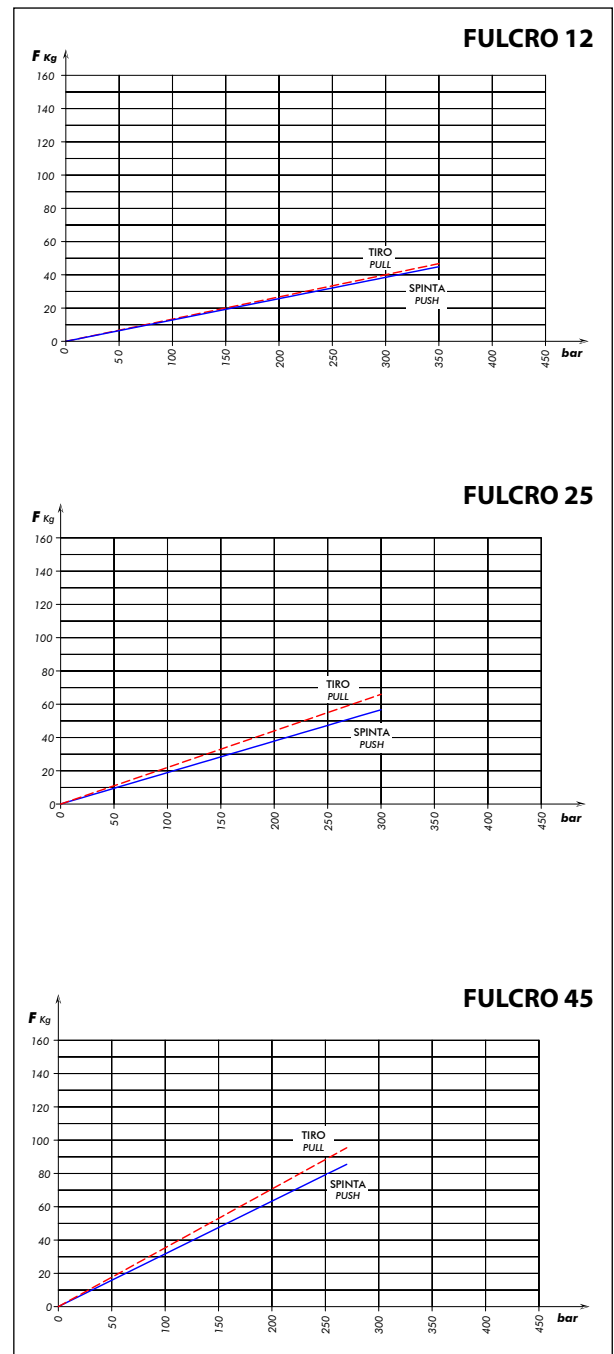
**Dati tecnici / Technical data**

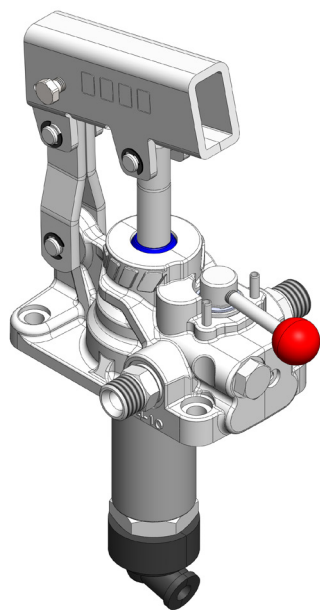
| Tipo pompa<br>Pump type | Taratura standard<br>Standard pressure setting<br>bar | Taratura massima<br>Max. pressure setting<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|---|--|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |   |  | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>FULCRO 12</b>        | 160   | 300  | 12                                 | 6,1                            | 5,9                              | 2,8                  |
| <b>FULCRO 25</b>        | 160   | 300  | 25                                 | 13,4                           | 11,6                             | 2,9                  |
| <b>FULCRO 45</b>        | 160   | 270  | 45                                 | 23,7                           | 21,3                             | 3,2                  |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -40° +100°C |        |       |      |

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690010068      | 10690010031      | 10690010077      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a doppio effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento di zincatura+sigillatura e lo stelo nichelato.

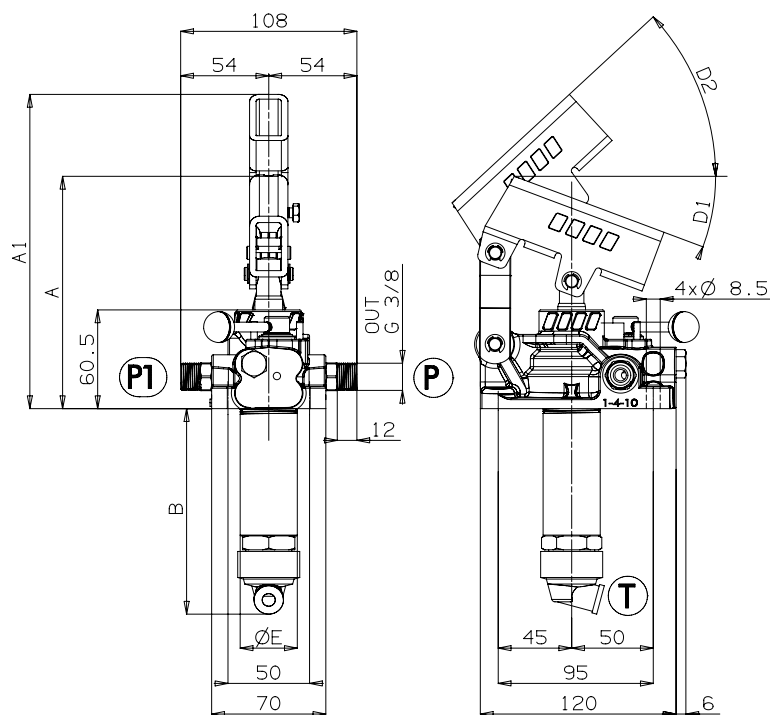
Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate double acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.

These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. They are available with nodular cast-iron body zinc plating+sealed and nickel-plated spool.

**Codice di ordinazione (senza leva)**  
Order code (without lever)

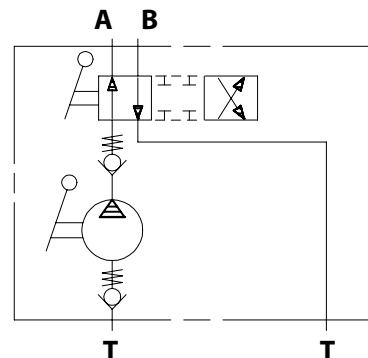
|  |    | FULCRO 12   | FULCRO 25   | FULCRO 45   |
|--|----|-------------|-------------|-------------|
| <b>Senza serbatoio</b><br>Without tank |    | 10601700015 | 10600700017 | 10600700026 |
| <b>Con serbatoio</b><br>With tank      | 1  | 10601600016 | 10600500019 | 10600600063 |
|  | 2  | 10601600025 | 10600500028 | 10600600054 |
|  | 3  | 10601600034 | 10600500037 | 10600600018 |
|  | 4  | 10601600038 | 10600500041 | 10600600072 |
|  | 5  | 10601600043 | 10600500046 | 10600600027 |
|  | 7  | 10601600052 | 10600500055 | 10600600036 |
|  | 10 | 10601600061 | 10600500064 | 10600600045 |

**Ingombro / Dimensions**

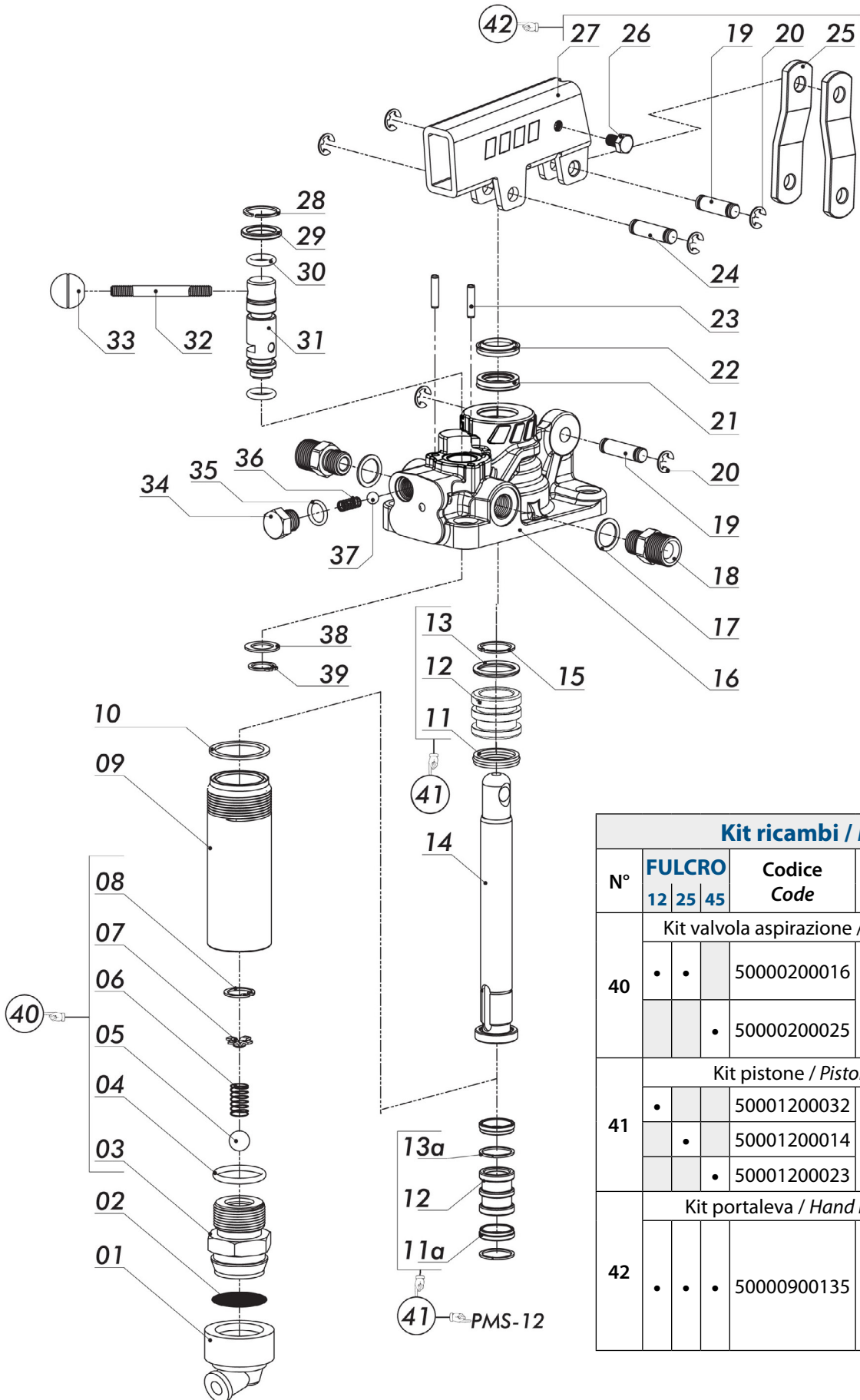


|                  | A   | A1  | B   | D1   | D2 | E  |
|------------------|-----|-----|-----|------|----|----|
|                  | mm  | mm  | mm  | °    | °  | mm |
| <b>FULCRO 12</b> | 143 | 187 | 120 | 18,5 | 45 | 35 |
| <b>FULCRO 25</b> | 142 | 193 | 127 | 20   | 45 | 35 |
| <b>FULCRO 45</b> | 141 | 193 | 138 | 20   | 45 | 42 |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



| Kit ricambi / Kit's                         |                    |                |                    |
|---|--------------------|----------------|--------------------|
| N°  | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit |                    |                |                    |
| 40  | • •                | 50000200016    |                    |
|   |                    | • 50000200025  |                    |
| Kit pistone / Piston assembly               |                    |                |                    |
| 41  | •                  | 50001200032    |                    |
|   |                    | • 50001200014  |                    |
|   |                    | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit       |                    |                |                    |
| 42  | • • •              | 50000900135    |                    |

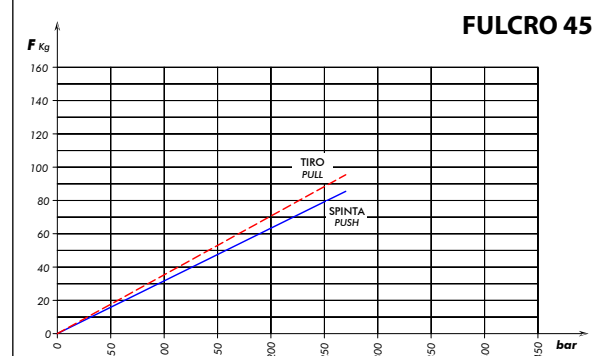
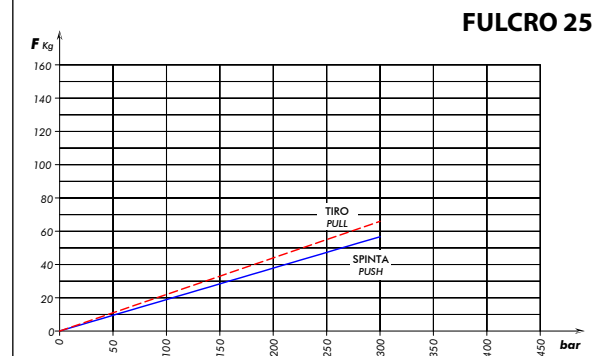
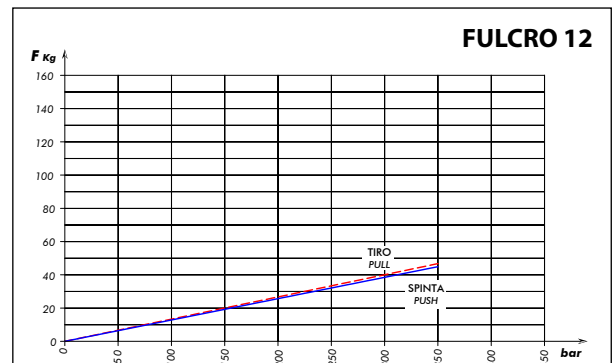
| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q. |
|-----|--------|----|----|-------------|---|----|
|     | 12     | 25 | 45 |             |   |    |
| 1   | •      | •  | •  | 50600000392 | Guarnizione portafiltro<br><i>Suction cap</i>                   | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1  |
| 3   | •      | •  |    | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1  |
|     |        |    | •  | 54000500037 |   |    |
| 4   | •      | •  |    | 50600200201 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600300095 |   |    |
| 5   | •      | •  |    | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1  |
| 6   | •      | •  |    | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1  |
| 7   | •      | •  |    | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1  |
| 8   | •      | •  |    | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 9   | •      |    |    | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1  |
|     |        | •  |    | 53700200019 |   |    |
|     |        |    | •  | 53700200028 |   |    |
| 10  | •      | •  |    | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                       | 1  |
|     |        |    | •  | 11600901308 |   |    |
| 11a | •      |    |    | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2  |
| 11  |        | •  |    | 50600000258 | Guarnizione speciale<br><i>Special gasket</i>                   | 1  |
|     |        |    | •  | 50600000267 |   |    |
| 12  | •      |    |    | 53200200082 | Pistone<br><i>Piston</i>  | 1  |
|     |        | •  |    | 53200200028 |   |    |
|     |        |    | •  | 53200200037 |   |    |
| 13a | •      |    |    | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2  |
| 13  |        | •  |    | 50600200158 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600200229 |   |    |
| 14  | •      |    |    | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1  |
|     |        | •  |    | 53500100069 |   |    |
|     |        |    | •  | 53500100078 |   |    |
| 15  | •      |    |    | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1  |
|     |        | •  |    | 50101100111 |   |    |
|     |        |    | •  | 50101100148 |   |    |
| 16  | •      |    |    | 51700100496 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1  |
|     |        | •  |    | 51700100512 |   |    |
|     |        |    | •  | 51700100530 |   |    |
| 17  | •      | •  |    | 11600900158 | Rondella utilizzi<br><i>Washer</i>                              | 2  |
| 18  | •      | •  |    | 11600600259 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 2  |
| 19  | •      | •  |    | 52600100095 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>              | 2  |
| 20  | •      | •  |    | 50101500028 | Anello elastico<br><i>Circlip</i>                               | 6  |
|     | •      |    |    | 50600001926 |   |    |
| 21  |        | •  |    | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1  |
|     |        |    | •  | 50600001944 |   |    |
|     | •      |    |    | 50600002729 |   |    |
| 22  |        | •  |    | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1  |
|     |        |    | •  | 50600002738 |   |    |
| 23  | •      | •  |    | 50100400058 | Spina elastica<br><i>Spring pins</i>                            | 2  |
| 24  | •      | •  |    | 52600100086 | Spinotto<br><i>Gudgeon Pin</i>                                  | 1  |
| 25  | •      | •  |    | 53800100081 | Biella<br><i>Brackets</i>                                       | 2  |
| 26  | •      | •  |    | 50200200012 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1  |
| 27  | •      | •  |    | 53900100212 | Portaleva<br><i>Lever holder</i>                                | 1  |
| 28  | •      | •  |    | 50101100102 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 29  | •      | •  |    | 50600000963 | Guarnizione protezione stelo<br><i>Seal</i>                     | 1  |
| 30  | •      | •  |    | 50600200041 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 31  | •      | •  |    | 53600100030 | Stelo invertitore<br><i>Diverter rod</i>                        | 1  |
| 32  | •      | •  |    | 53900400031 | Leva per invertitore<br><i>Directional control lever</i>        | 1  |
| 33  | •      | •  |    | 50900100073 | Pomello rosso<br><i>Red knob</i>                                | 1  |
| 34  | •      | •  |    | 54000300360 | Tappo valvola di ritegno<br><i>Non-return valve cover</i>       | 1  |
| 35  | •      | •  |    | 50601910200 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 36  | •      | •  |    | 51200500312 | Molla valvola di ritegno<br><i>Non-return valve spring</i>      | 1  |
| 37  | •      | •  |    | 51000900054 | Sfera tenuta di ritegno<br><i>Non-return ball</i>               | 3  |
| 38  | •      | •  |    | 53000100489 | Distanziale<br><i>Spacer</i>                                    | 1  |
| 39  | •      | •  |    | 50100200103 | Anello elastico<br><i>Circlip</i>                               | 1  |



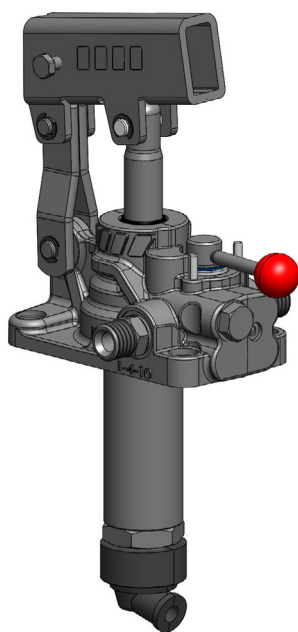
**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>FULCRO 12</b>        | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>FULCRO 25</b>        | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>FULCRO 45</b>        | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690000551      | 10690000604      | 10690000659      |



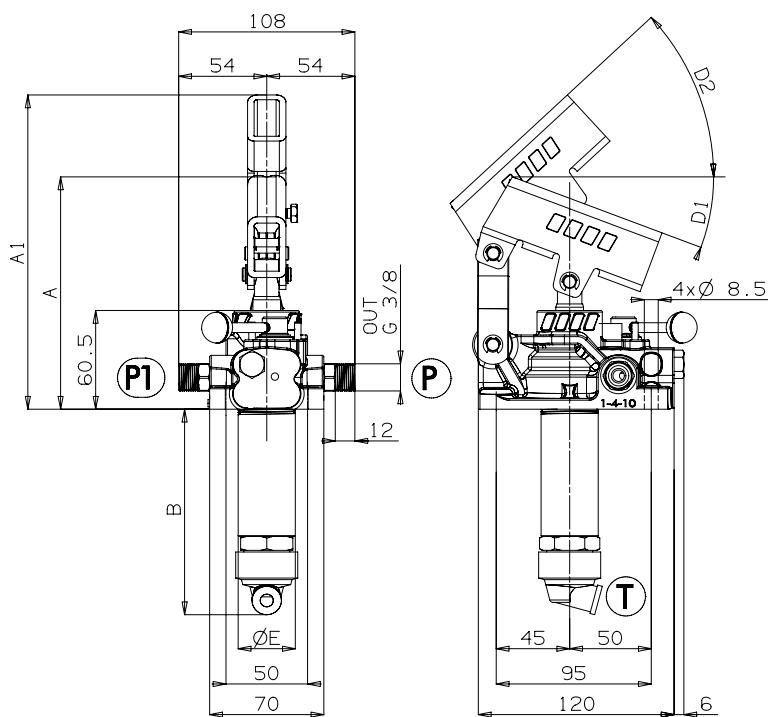
Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a doppio effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. **TRATTAMENTO ALTA RESISTENZA ALLA CORROSIONE (700 ore in nebbia salina).**

Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate double acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve. These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **HIGH RESISTANCE TREATMENT AGAINST CORROSION (Salt spray test=700 hours).**

**Codice di ordinazione (senza leva)**  
Order code (without lever)

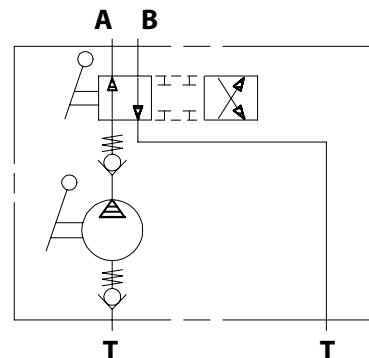
|  | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|--|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br>Without tank | 10602200125      | 10602200250      | 10602200456      |

**Ingombro / Dimensions**

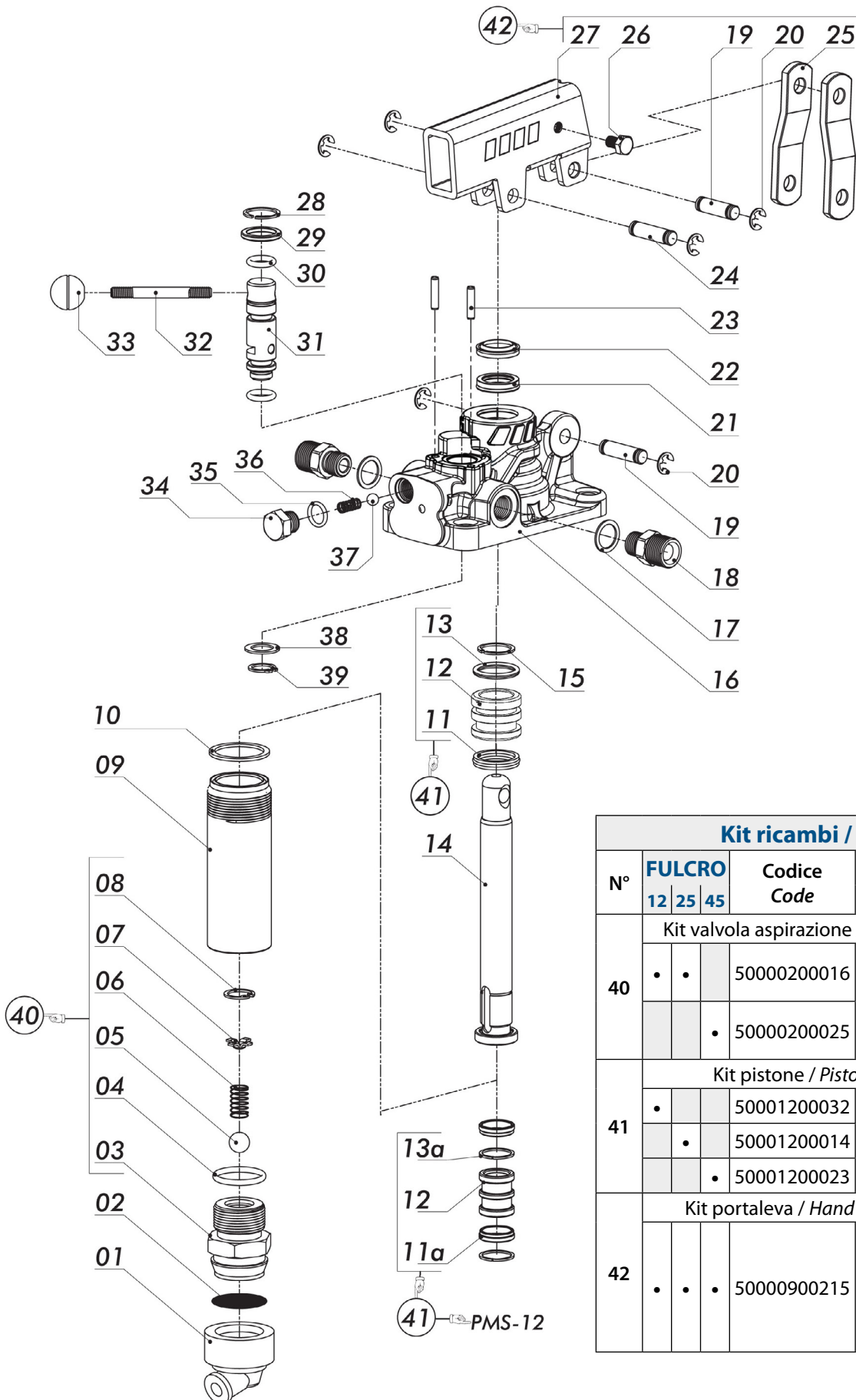


|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



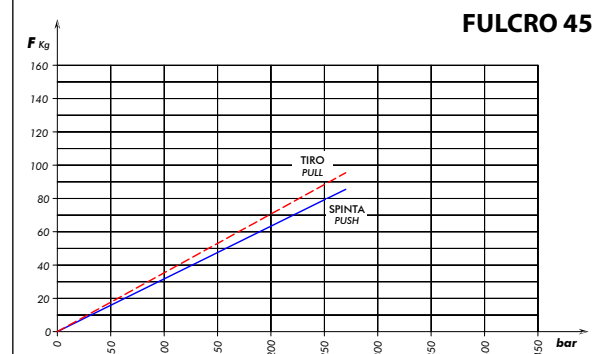
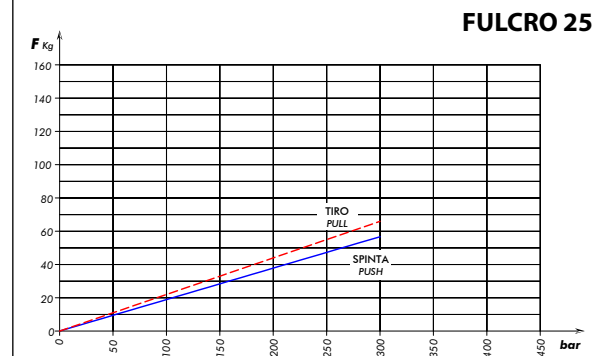
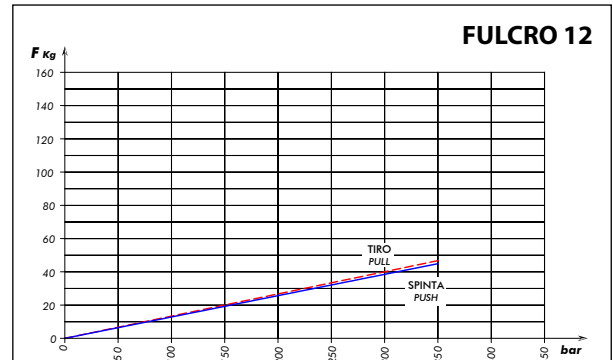
| Kit ricambi / Kit's                         |                    |                |                    |
|---|--------------------|----------------|--------------------|
| N°  | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit |                    |                |                    |
| 40  | • •                | 50000200016    |                    |
|   |                    | • 50000200025  |                    |
| Kit pistone / Piston assembly               |                    |                |                    |
| 41  | •                  | 50001200032    |                    |
|   |                    | • 50001200014  |                    |
|   |                    | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit       |                    |                |                    |
| 42  | • • •              | 50000900215    |                    |

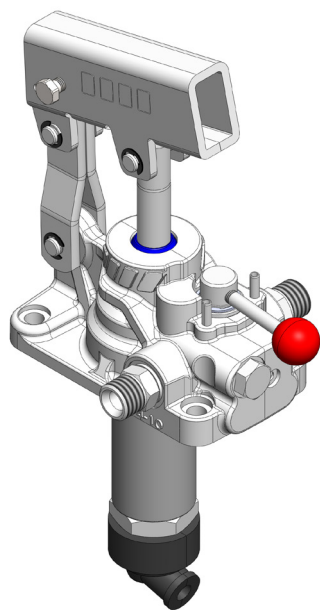
| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q. |
|-----|--------|----|----|-------------|---|----|
|     | 12     | 25 | 45 |             |   |    |
| 1   | •      | •  | •  | 50600000392 | Guarnizione portafiltro<br><i>Suction cap</i>                   | 1  |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1  |
| 3   | •      | •  |    | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1  |
|     |        |    | •  | 54000500037 |   |    |
| 4   | •      | •  |    | 50600200201 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600300095 |   |    |
| 5   | •      | •  |    | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1  |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1  |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1  |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 9   | •      |    |    | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1  |
|     |        | •  |    | 53700200019 |   |    |
|     |        |    | •  | 53700200028 |   |    |
| 10  | •      | •  |    | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                       | 1  |
|     |        |    | •  | 11600901308 |   |    |
| 11a | •      |    |    | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2  |
| 11  |        | •  |    | 50600000258 | Guarnizione speciale<br><i>Special gasket</i>                   | 1  |
|     |        |    | •  | 50600000267 |   |    |
| 12  | •      |    |    | 53200200082 | Pistone<br><i>Piston</i>  | 1  |
|     |        | •  |    | 53200200028 |   |    |
|     |        |    | •  | 53200200037 |   |    |
| 13a | •      |    |    | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2  |
| 13  |        | •  |    | 50600200158 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
|     |        |    | •  | 50600200229 |   |    |
| 14  | •      |    |    | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1  |
|     |        | •  |    | 53500100069 |   |    |
|     |        |    | •  | 53500100078 |   |    |
| 15  | •      |    |    | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1  |
|     |        | •  |    | 50101100111 |   |    |
|     |        |    | •  | 50101100148 |   |    |
| 16  | •      |    |    | 51700194967 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1  |
|     |        | •  |    | 51700195126 |   |    |
|     |        |    | •  | 51700195304 |   |    |
| 17  | •      | •  | •  | 11600900158 | Rondella utilizzi<br><i>Washer</i>                              | 2  |
| 18  | •      | •  | •  | 11600692599 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 2  |
| 19  | •      | •  | •  | 52600190953 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>              | 2  |
| 20  | •      | •  | •  | 50101590280 | Anello elastico<br><i>Circlip</i>                               | 6  |
|     | •      |    |    | 50600001926 |   |    |
| 21  |        | •  |    | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1  |
|     |        |    | •  | 50600001944 |   |    |
|     | •      |    |    | 50600002729 |   |    |
| 22  |        | •  |    | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1  |
|     |        |    | •  | 50600002738 |   |    |
| 23  | •      | •  | •  | 50100400058 | Spina elastica<br><i>Spring pins</i>                            | 2  |
| 24  | •      | •  | •  | 52600190864 | Spinotto<br><i>Gudgeon Pin</i>                                  | 1  |
| 25  | •      | •  | •  | 53800190814 | Biella<br><i>Brackets</i>                                       | 2  |
| 26  | •      | •  | •  | 50200290121 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1  |
| 27  | •      | •  | •  | 53900192123 | Portaleva<br><i>Lever holder</i>                                | 1  |
| 28  | •      | •  | •  | 50101191023 | Anello elastico<br><i>Circlip</i>                               | 1  |
| 29  | •      | •  | •  | 50600000963 | Guarnizione protezione stelo<br><i>Seal</i>                     | 1  |
| 30  | •      | •  | •  | 50600200041 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 31  | •      | •  | •  | 53600100030 | Stelo invertitore<br><i>Diverter rod</i>                        | 1  |
| 32  | •      | •  | •  | 53900490319 | Leva per invertitore<br><i>Directional control lever</i>        | 1  |
| 33  | •      | •  | •  | 50900100073 | Pomello rosso<br><i>Red knob</i>                                | 1  |
| 34  | •      | •  | •  | 54000393609 | Tappo valvola di ritegno<br><i>Non-return valve cover</i>       | 1  |
| 35  | •      | •  | •  | 50601910200 | Guarnizione OR<br><i>O-ring</i>                                 | 1  |
| 36  | •      | •  | •  | 51200500312 | Molla valvola di ritegno<br><i>Non-return valve spring</i>      | 1  |
| 37  | •      | •  | •  | 51000900054 | Sfera tenuta di ritegno<br><i>Non-return ball</i>               | 3  |
| 38  | •      | •  | •  | 53000100489 | Distanziale<br><i>Spacer</i>                                    | 1  |
| 39  | •      | •  | •  | 50100200103 | Anello elastico<br><i>Circlip</i>                               | 1  |

**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>FULCRO 12</b>        | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>FULCRO 25</b>        | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>FULCRO 45</b>        | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica<br>consigliata<br>Kinematic viscosity<br>suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                          |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




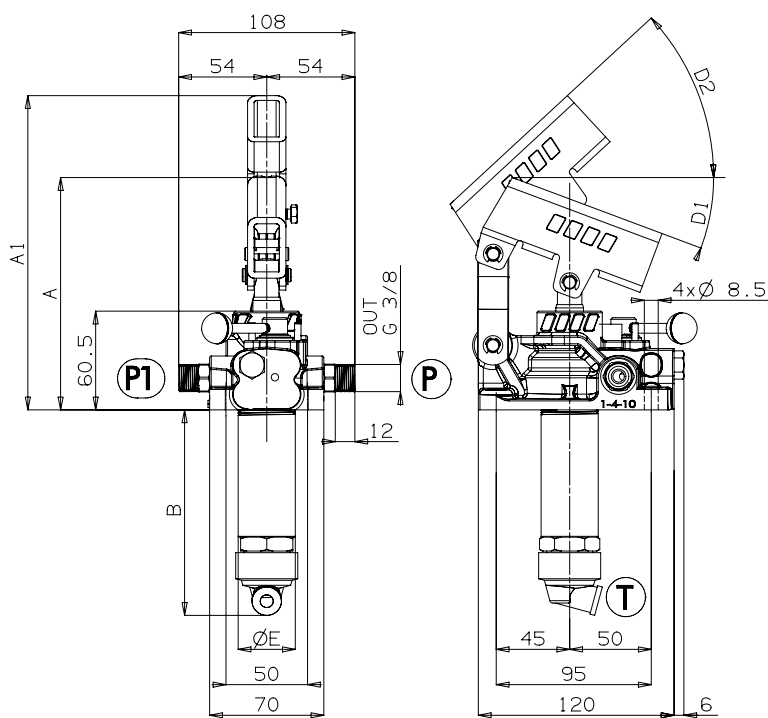
Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a doppio effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. **BASSE TEMPERATURE -40°C.**

Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate double acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve. These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **LOW TEMPERATURE -40°C.**

**Codice di ordinazione (senza leva)**  
Order code (without lever)

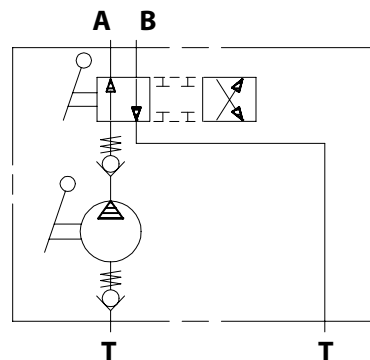
|  | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|--|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br>Without tank | 10690317157      | 10690307177      | 10690307266      |

**Ingombro / Dimensions**



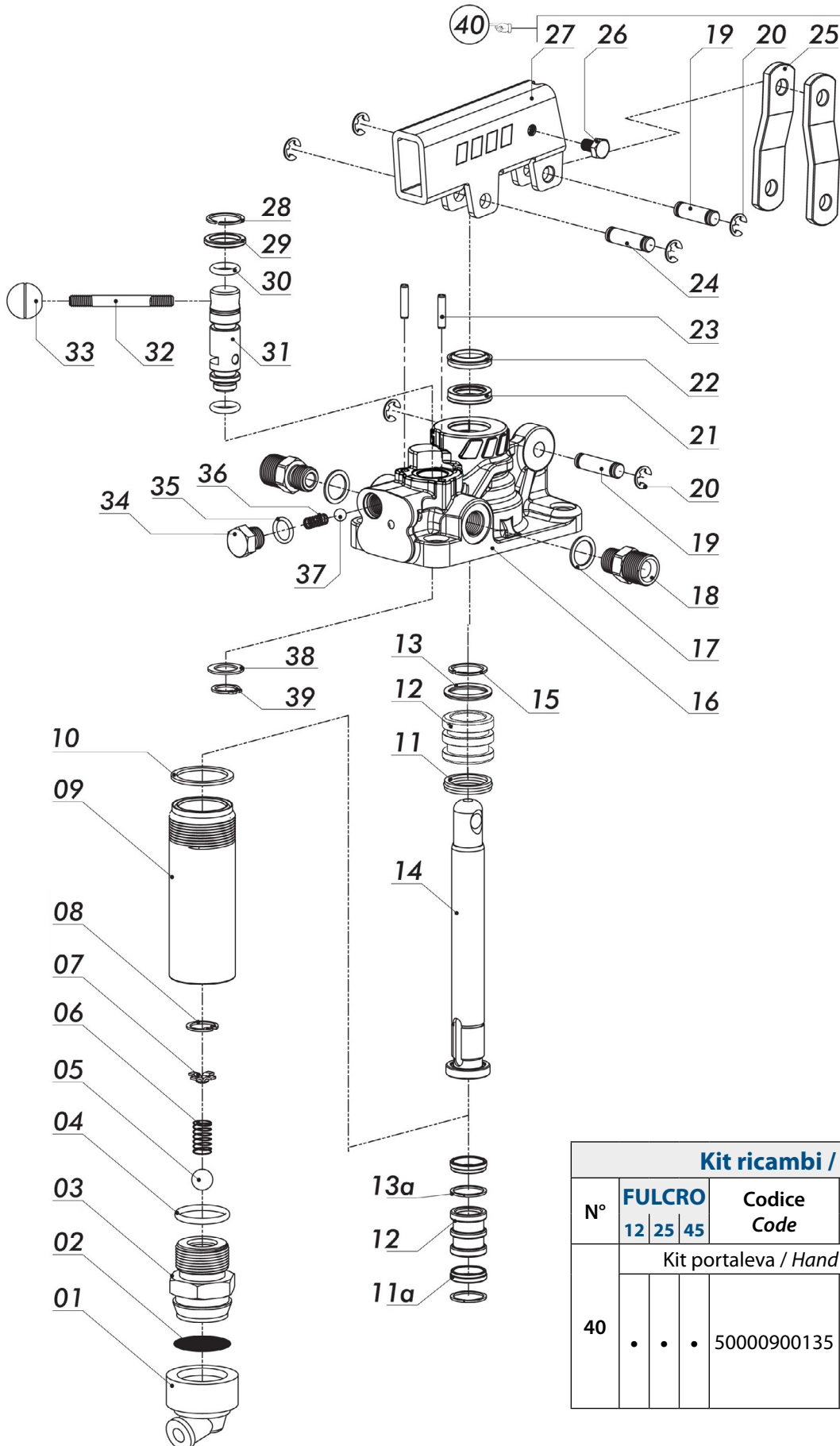
|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

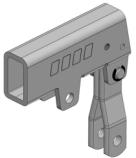
**Schema idraulico / Hydraulic layout**





Schema ricambio / Spare parts



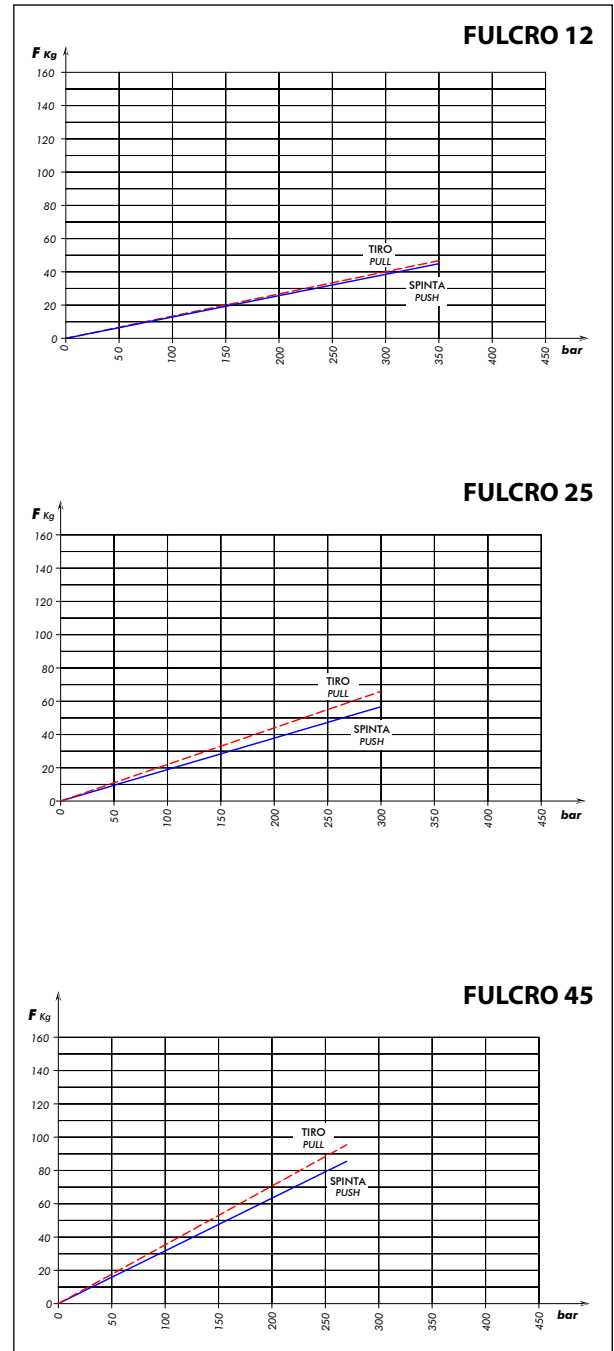
| Kit ricambi / Kit's                   |              |             |   |
|---------------------------------------|--------------|-------------|---|
| N°                                    | FULCRO       | Codice Code | Gruppo Assembly   |
|                                       | 12   25   45 |             |   |
| Kit portaleva / Hand lever holder kit |              |             |   |
| 40                                    | • • •        | 50000900135 |  |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description   | Q.                                |   |
|-----|--------|----|----|-------------|---|-----------------------------------|---|
|     | 12     | 25 | 45 |             |   |                                   |   |
| 1   | •      | •  | •  | 5060000427  | Guarnizione portafiltro<br><i>Suction cap</i>                   | 1                                 |   |
| 2   | •      | •  | •  | 55000100012 | Filtro acciaio rotondo<br><i>Steel strainer</i>                 | 1                                 |   |
| 3   | •      | •  | •  | 54000500019 | Corpo valvola di aspirazione<br><i>Suction valve casing</i>     | 1                                 |   |
|     |        |    | •  | 54000500037 |   |                                   |   |
| 4   | •      | •  | •  | 50600000802 | Guarnizione OR<br><i>O-ring</i>                                 | 1                                 |   |
|     |        |    | •  | 50600000972 |   |                                   |   |
| 5   | •      | •  | •  | 51000900116 | Sfera tenuta<br><i>Ball</i>                                     | 1                                 |   |
| 6   | •      | •  | •  | 51200500689 | Molla valvola di aspirazione<br><i>Spring for suction valve</i> | 1                                 |   |
| 7   | •      | •  | •  | 55000100101 | Guidamolla<br><i>Spring-guide</i>                               | 1                                 |   |
| 8   | •      | •  | •  | 50100100113 | Anello elastico<br><i>Circlip</i>                               | 1                                 |   |
| 9   | •      | •  | •  | 53700200037 | Cilindro acciaio<br><i>Steel stem</i>                           | 1                                 |   |
|     |        |    | •  | 53700200019 |   |                                   |   |
|     |        |    | •  | 53700200028 |   |                                   |   |
| 10  | •      | •  | •  | 11600901255 | Rondella tenuta cilindro<br><i>Washer</i>                       | 1                                 |   |
|     |        |    | •  | 11600901308 |   |                                   |   |
| 11a | •      | •  | •  | 50600000516 | Guarnizione speciale<br><i>Special gasket</i>                   | 2                                 |   |
| 11  | •      | •  | •  | 50600000954 | Guarnizione speciale<br><i>Special gasket</i>                   | 1                                 |   |
|     |        |    | •  | 50600000990 |   |                                   |   |
| 12  | •      | •  | •  | 53200200082 | Pistone<br><i>Piston</i>  | 1                                 |   |
|     |        |    | •  | 53200200028 |   |                                   |   |
|     |        |    | •  | 53200200037 |   |                                   |   |
| 13a | •      | •  | •  | 55000400046 | Anello antiestrusore<br><i>Locking ring</i>                     | 2                                 |   |
| 13  | •      | •  | •  | 50600000945 | Guarnizione OR<br><i>O-ring</i>                                 | 1                                 |   |
|     |        |    | •  |             |   |                                   |   |
| 14  | •      | •  | •  | 53500100121 | Stelo<br><i>Piston rod</i>                                      | 1                                 |   |
|     |        |    | •  | 53500100069 |   |                                   |   |
|     |        |    | •  | 53500100078 |   |                                   |   |
| 15  | •      | •  | •  | 50101100086 | Anello elastico<br><i>Circlip</i>                               | 1                                 |   |
|     |        |    | •  | 50101100111 |   |                                   |   |
|     |        |    | •  | 50101100148 |   |                                   |   |
| 16  | •      | •  | •  | 51700100496 | Corpo pompa a mano<br><i>Hand pump housing</i>                  | 1                                 |   |
|     |        |    | •  | 51700100512 |   |                                   |   |
|     |        |    | •  | 51700100530 |   |                                   |   |
| 17  | •      | •  | •  | 11600900158 | Rondella utilizzi<br><i>Washer</i>                              | 2                                 |   |
| 18  | •      | •  | •  | 11600600259 | Nipplo utilizzi<br><i>Pressure nipple</i>                       | 2                                 |   |
| 19  | •      | •  | •  | 52600100095 | Spinotto lunghezza 26mm<br><i>Gudgeon Pin 26mm</i>              | 2                                 |   |
| 20  | •      | •  | •  | •           | 50101500028   | Anello elastico<br><i>Circlip</i> | 6 |
|     |        |    |    | •           | 50600001926   |                                   |   |
| 21  | •      | •  | •  | 50600001935 | Guarnizione a labbro<br><i>Lip seal</i>                         | 1                                 |   |
|     |        |    | •  | 50600001944 |   |                                   |   |
|     |        |    | •  | 50600002729 |   |                                   |   |
| 22  | •      | •  | •  | 50600002701 | Guarnizione raschiapolvere<br><i>Wiper seal</i>                 | 1                                 |   |
|     |        |    | •  | 50600002738 |   |                                   |   |
| 23  | •      | •  | •  | 50100400058 | Spina elastica<br><i>Spring pins</i>                            | 2                                 |   |
| 24  | •      | •  | •  | 52600100086 | Spinotto<br><i>Gudgeon Pin</i>                                  | 1                                 |   |
| 25  | •      | •  | •  | 53800100081 | Biella<br><i>Brackets</i>                                       | 2                                 |   |
| 26  | •      | •  | •  | 50200200012 | Vite blocco leva<br><i>Locking lever screw</i>                  | 1                                 |   |
| 27  | •      | •  | •  | 53900100212 | Portaleva<br><i>Lever holder</i>                                | 1                                 |   |
| 28  | •      | •  | •  | 50101100102 | Anello elastico<br><i>Circlip</i>                               | 1                                 |   |
| 29  | •      | •  | •  | 50600000963 | Guarnizione protezione stelo<br><i>Seal</i>                     | 1                                 |   |
| 30  | •      | •  | •  | 50600013043 | Guarnizione OR<br><i>O-ring</i>                                 | 1                                 |   |
| 31  | •      | •  | •  | 53600100030 | Stelo invertitore<br><i>Diverter rod</i>                        | 1                                 |   |
| 32  | •      | •  | •  | 53900400031 | Leva per invertitore<br><i>Directional control lever</i>        | 1                                 |   |
| 33  | •      | •  | •  | 50900100073 | Pomello rosso<br><i>Red knob</i>                                | 1                                 |   |
| 34  | •      | •  | •  | 54000300360 | Tappo valvola di ritegno<br><i>Non-return valve cover</i>       | 1                                 |   |
| 35  | •      | •  | •  | 50600011020 | Guarnizione OR<br><i>O-ring</i>                                 | 1                                 |   |
| 36  | •      | •  | •  | 51200500312 | Molla valvola di ritegno<br><i>Non-return valve spring</i>      | 1                                 |   |
| 37  | •      | •  | •  | 51000900054 | Sfera tenuta di ritegno<br><i>Non-return ball</i>               | 3                                 |   |
| 38  | •      | •  | •  | 53000100489 | Distanziale<br><i>Spacer</i>                                    | 1                                 |   |
| 39  | •      | •  | •  | 50100200103 | Anello elastico<br><i>Circlip</i>                               | 1                                 |   |

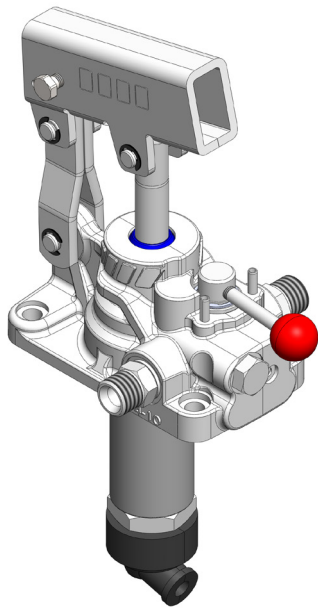
**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>FULCRO 12</b>        | 350   | 12                                 | 6,1                            | 5,9                              | 2,8                      |
| <b>FULCRO 25</b>        | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                      |
| <b>FULCRO 45</b>        | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica<br>consigliata<br>Kinematic viscosity<br>suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                          |  | -40° +100°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690010040      | 10690010022      | 10690010059      |



Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a doppio effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento di zincatura+sigillatura e lo stelo nichelato.

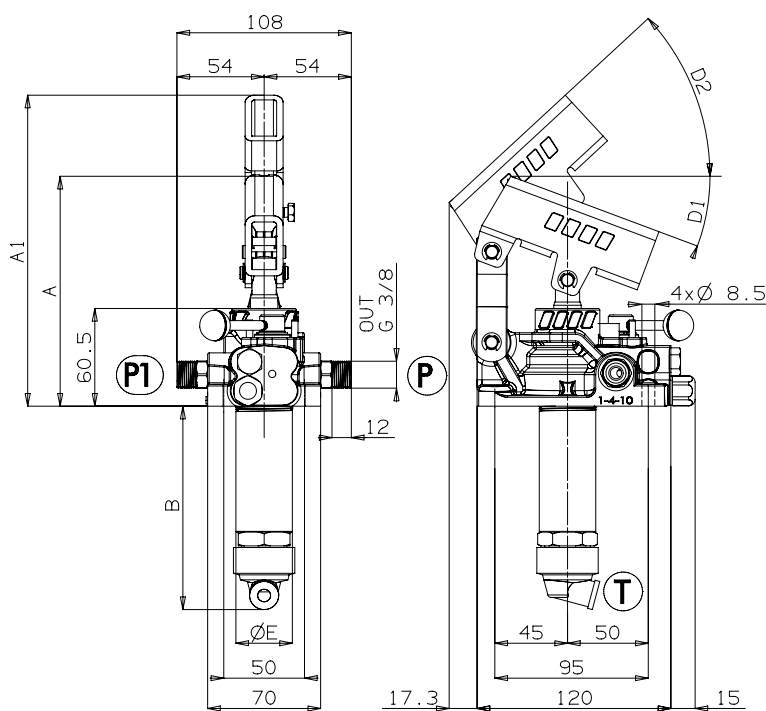
Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate double acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.

These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. They are available with nodular cast-iron body zinc plating+sealed and nickel-plated spool.

**Codice di ordinazione (senza leva)**  
*Order code (without lever)*

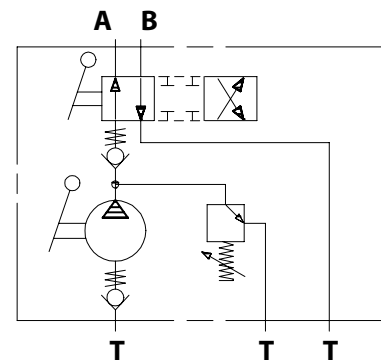
|   |                    | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |             |
|---|--------------------|------------------|------------------|------------------|-------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> |                    | 10602100019      | 10601300019      | 10601300028      |             |
| <b>Con serbatoio</b><br><i>With tank</i>      | Plastica / Plastic | 1                | 10602000010      | 10601100011      | 10601200065 |
|   |                    | 2                | 10602000029      | 10601100020      | 10601200056 |
|   |                    | 3                | 10602000038      | 10601100039      | 10601200010 |
|   |                    | 4                | 10602000042      | 10601100043      | 10601200074 |
|   |                    | 5                | 10602000047      | 10601100048      | 10601200029 |
|   |                    | 7                | 10602000056      | 10601100057      | 10601200038 |
|   |                    | 10               | 10602000065      | 10601100066      | 10601200047 |

**Ingombro / Dimensions**

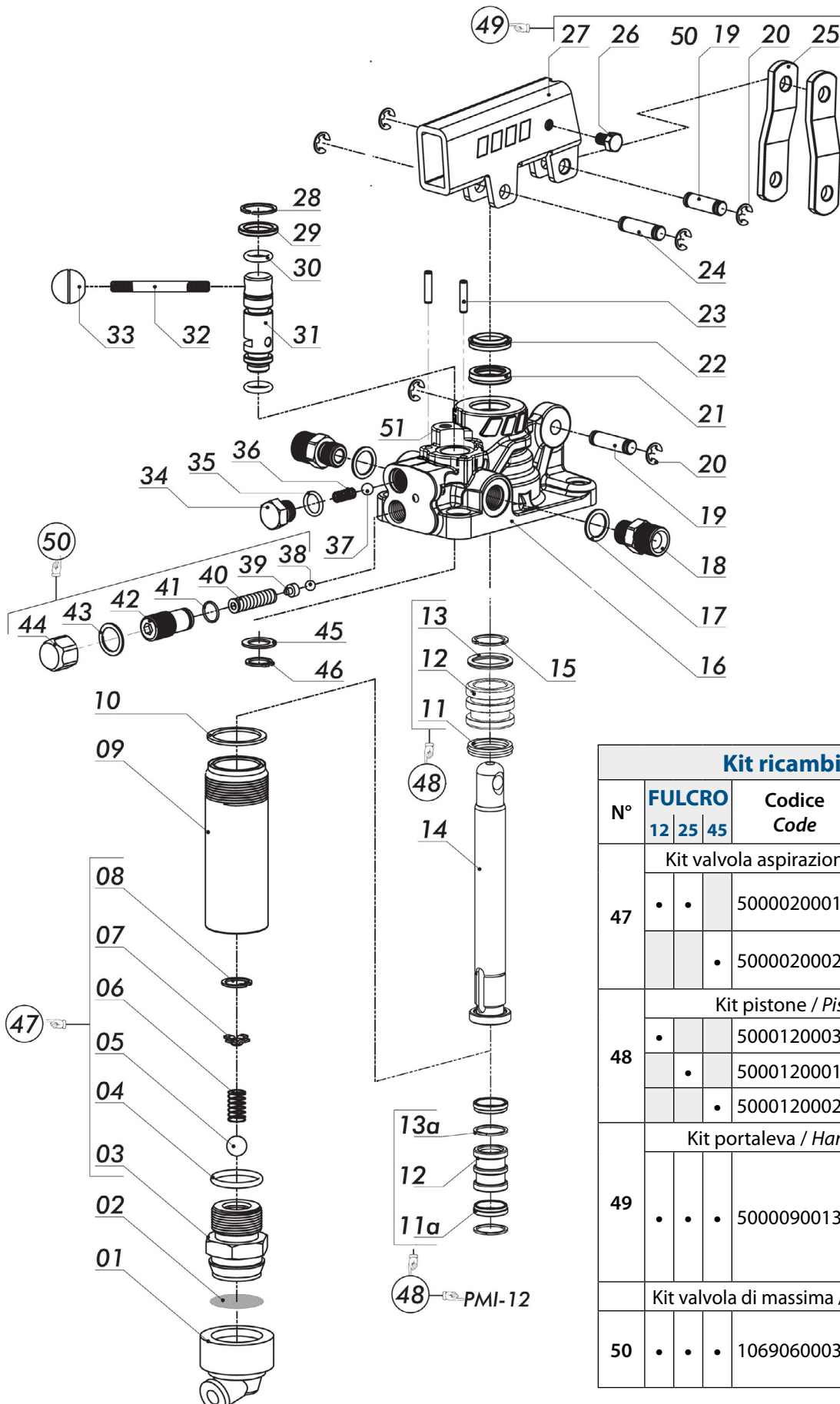


|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts



| Kit ricambi / Kit's                            |                    |                |                    |
|--|--------------------|----------------|--------------------|
| N°   | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit    |                    |                |                    |
| 47   | • •                | 50000200016    |                    |
|  |                    | • 50000200025  |                    |
| Kit pistone / Piston assembly                  |                    |                |                    |
| 48   | •                  | 50001200032    |                    |
|  |                    | • 50001200014  |                    |
|  |                    | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit          |                    |                |                    |
| 49   | • • •              | 50000900135    |                    |
| Kit valvola di massima / Relief valve assembly |                    |                |                    |
| 50   | • • •              | 10690600037    |                    |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description            | Q.                             |   |
|-----|--------|----|----|-------------|------------------------------------|--------------------------------|---|
|     | 12     | 25 | 45 |             |                                    |                                |   |
| 1   | .      | .  | .  | 5060000392  | Guarnizione portafiltro            | Suction cap                    | 1 |
| 2   | .      | .  | .  | 55000100012 | Filtro acciaio rotondo             | Steel strainer                 | 1 |
| 3   | .      | .  | .  | 54000500019 | Corpo valvola di aspirazione       | Suction valve casing           | 1 |
|     |        |    | .  | 54000500037 |                                    |                                |   |
| 4   | .      | .  | .  | 50600200201 | Guarnizione OR                     | O-ring                         | 1 |
|     |        |    | .  | 50600300095 |                                    |                                |   |
| 5   | .      | .  | .  | 51000900116 | Sfera tenuta                       | Ball                           | 1 |
| 6   | .      | .  | .  | 51200500689 | Molla valvola di aspirazione       | Spring for suction valve       | 1 |
| 7   | .      | .  | .  | 55000100101 | Guidamolla                         | Spring-guide                   | 1 |
| 8   | .      | .  | .  | 50100100113 | Anello elastico                    | Circlip                        | 1 |
| 9   | .      | .  | .  | 53700200037 | Cilindro acciaio                   | Steel stem                     | 1 |
|     |        | .  | .  | 53700200019 |                                    |                                |   |
|     |        |    | .  | 53700200028 |                                    |                                |   |
| 10  | .      | .  | .  | 11600901255 | Rondella tenuta cilindro           | Washer                         | 1 |
|     |        |    | .  | 11600901308 |                                    |                                |   |
| 11a | .      | .  | .  | 50600000516 | Guarnizione speciale               | Special gasket                 | 2 |
| 11  | .      | .  | .  | 50600000258 | Guarnizione speciale               | Special gasket                 | 1 |
|     |        |    | .  | 50600000267 |                                    |                                |   |
| 12  | .      | .  | .  | 53200200082 | Pistone                            | Piston                         | 1 |
|     |        | .  | .  | 53200200028 |                                    |                                |   |
|     |        |    | .  | 53200200037 |                                    |                                |   |
| 13a | .      | .  | .  | 55000400046 | Anello antiestrusore               | Locking ring                   | 2 |
| 13  | .      | .  | .  | 50600200158 | Guarnizione OR                     | O-ring                         | 1 |
|     |        |    | .  | 50600200229 |                                    |                                |   |
| 14  | .      | .  | .  | 53500100069 | Stelo                              | Piston rod                     | 1 |
|     |        | .  | .  | 53500100078 |                                    |                                |   |
|     |        |    | .  | 53500100086 |                                    |                                |   |
| 15  | .      | .  | .  | 50101100086 | Anello elastico                    | Circlip                        | 1 |
|     |        | .  | .  | 50101100111 |                                    |                                |   |
|     |        |    | .  | 50101100148 |                                    |                                |   |
| 16  | .      | .  | .  | 51700100503 | Corpo pompa a mano                 | Hand pump housing              | 1 |
|     |        | .  | .  | 51700100521 |                                    |                                |   |
|     |        |    | .  | 51700100549 |                                    |                                |   |
| 17  | .      | .  | .  | 11600900158 | Rondella utilizzi                  | Washer                         | 2 |
| 18  | .      | .  | .  | 11600600259 | Nipplo utilizzi                    | Pressure nipple                | 2 |
| 19  | .      | .  | .  | 52600100095 | Spinotto lunghezza 26mm            | Gudgeon Pin 26mm               | 2 |
| 20  | .      | .  | .  | 50101500028 | Anello elastico                    | Circlip                        | 6 |
|     |        | .  | .  | 50600001926 |                                    |                                |   |
| 21  | .      | .  | .  | 50600001935 | Guarnizione a labbro               | Lip seal                       | 1 |
|     |        | .  | .  | 50600001944 |                                    |                                |   |
|     |        |    | .  | 50600002729 |                                    |                                |   |
| 22  | .      | .  | .  | 50600002701 | Guarnizione raschiapolvere         | Wiper seal                     | 1 |
|     |        |    | .  | 50600002738 |                                    |                                |   |
| 23  | .      | .  | .  | 50100400058 | Spina elastica                     | Spring pins                    | 2 |
| 24  | .      | .  | .  | 52600100086 | Spinotto                           | Gudgeon Pin                    | 1 |
| 25  | .      | .  | .  | 53800100081 | Biella                             | Brackets                       | 2 |
| 26  | .      | .  | .  | 50200200012 | Vite blocco leva                   | Locking lever screw            | 1 |
| 27  | .      | .  | .  | 53900100212 | Portaleva                          | Lever holder                   | 1 |
| 28  | .      | .  | .  | 50101100102 | Anello elastico                    | Circlip                        | 1 |
| 29  | .      | .  | .  | 50600000963 | Guarnizione protezione stelo       | Seal                           | 2 |
| 30  | .      | .  | .  | 50600200041 | Guarnizione OR                     | O-ring                         | 1 |
| 31  | .      | .  | .  | 53600100030 | Stelo invertitore                  | Diverter rod                   | 1 |
| 32  | .      | .  | .  | 53900400031 | Leva per invertitore               | Directional control lever      | 1 |
| 33  | .      | .  | .  | 50900100073 | Pomello rosso                      | Red knob                       | 1 |
| 34  | .      | .  | .  | 54000300360 | Tappo valvola di ritegno           | Non-return valve cover         | 1 |
| 35  | .      | .  | .  | 50601910200 | Guarnizione OR                     | O-ring                         | 1 |
| 36  | .      | .  | .  | 51200501428 | Molla valvola di ritegno           | Non-return valve spring        | 1 |
| 37  | .      | .  | .  | 51000900054 | Sfera tenuta di ritegno            | Non-return ball                | 2 |
| 38  | .      | .  | .  | 51000900045 | Sfera tenuta valvola di massima    | Relief valve ball              | 1 |
| 39  | .      | .  | .  | 54200100073 | Pistone guidamolla                 | Guide-spring pin               | 1 |
| 40  | .      | .  | .  | 51200500312 | Molla valvola di massima           | Relief valve spring            | 1 |
| 41  | .      | .  | .  | 50601910102 | Guarnizione OR                     | O-ring                         | 1 |
| 42  | .      | .  | .  | 50400000458 | Grano registro valvola di massima  | Setting screw for relief valve | 1 |
| 43  | .      | .  | .  | 11600900201 | Rondella tenuta valvola di massima | Washer                         | 1 |
| 44  | .      | .  | .  | 54000600116 | Tappo chiusura valvola di massima  | Relief valve cover             | 1 |
| 45  | .      | .  | .  | 53000100489 | Distanziale                        | Spacer                         | 1 |
| 46  | .      | .  | .  | 50100200103 | Anello elastico                    | Circlip                        | 1 |
| 51  | .      | .  | .  | 50401000018 | Grano conico 1/16" NPTF            | Conical plug 1/16" NPTF        | 1 |



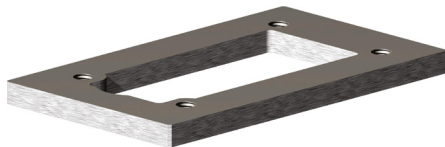
**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Taratura standard<br>Standard pressure setting<br>bar | Taratura massima<br>Max. pressure setting<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|---|--|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |   |  | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>FULCRO 12</b>        | 160   | 300  | 12                                 | 6,1                            | 5,9                              | 2,8                  |
| <b>FULCRO 25</b>        | 160   | 300  | 25                                 | 13,4                           | 11,6                             | 2,9                  |
| <b>FULCRO 45</b>        | 160   | 270  | 45                                 | 23,7                           | 21,3                             | 3,2                  |

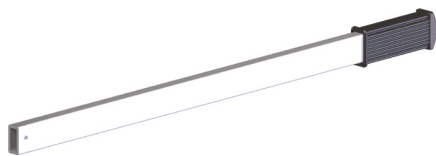
|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690000551      | 10690000604      | 10690000659      |



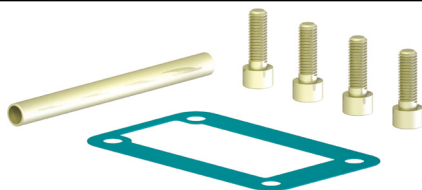
10600000032

 PIA.APP.GRP.PMP. PMS-PMI  
 MOUNTING PLATE FOR TANK PMS-PMI


10600000078

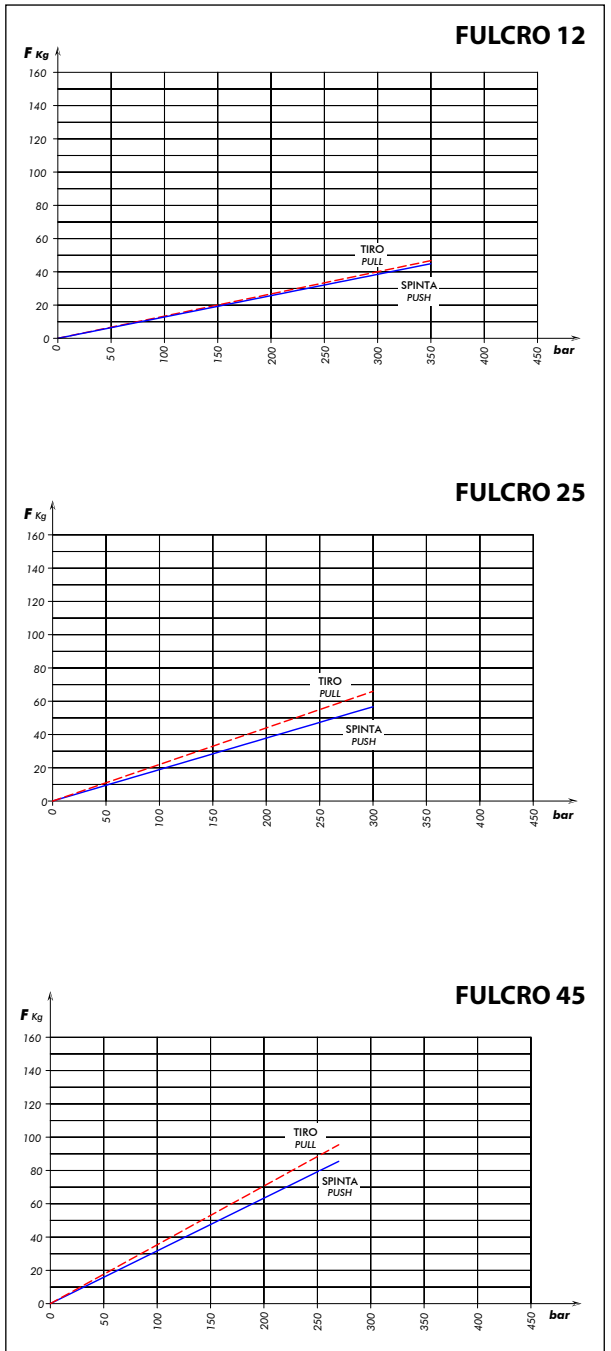
 AST. CON IMP.PMS/PMI L.600 MM 35x15  
 LEVER FOR PMS/PMI L. 600 MM 35x15

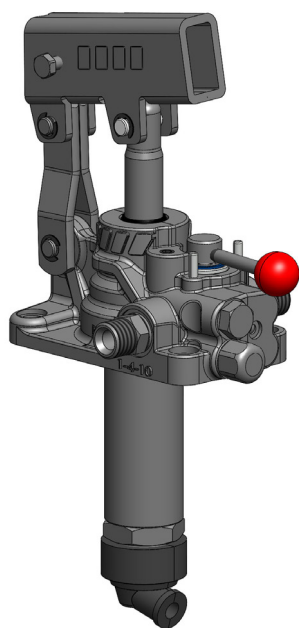

10600000247

 MAGGIORAZIONE RITORNO A MOLLA X PMS  
 SPRING RETURN FOR PMS


10696000700

 KIT MONTAGGIO POMPE PMS/PMI  
 MOUNTING KIT FOR PUMPS PMS/PMI

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever




Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a doppio effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. **TRATTAMENTO ALTA RESISTENZA ALLA CORROSIONE (700 ore in nebbia salina).**

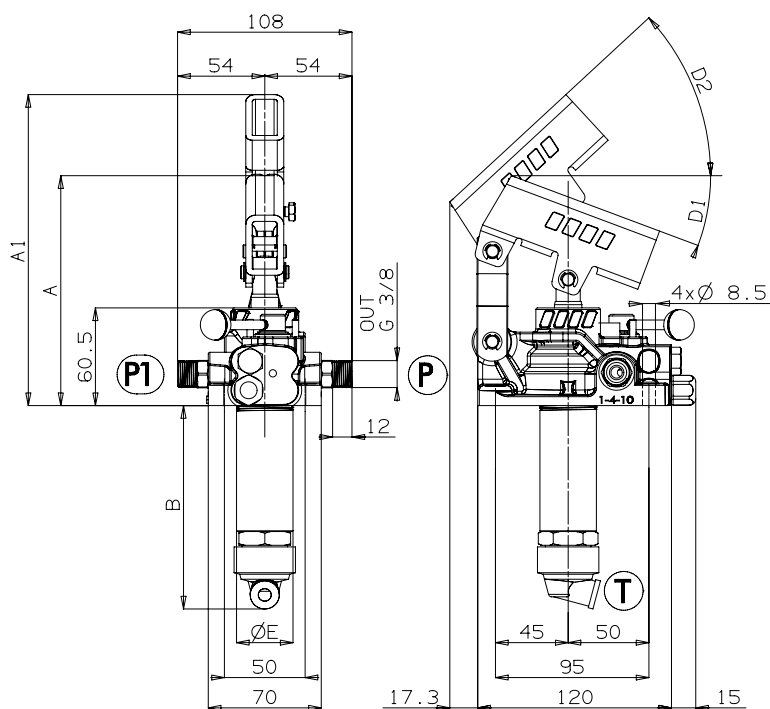
Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate double acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve.

These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **HIGH RESISTANCE TREATMENT AGAINST CORROSION (Salt spray test=700 hours).**

**Codice di ordinazione (senza leva)**  
Order code (without lever)

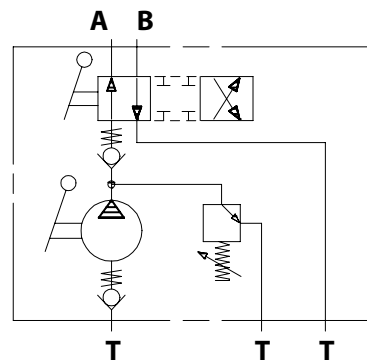
|  | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|--|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br>Without tank | 10602201124      | 10602201259      | 10602201455      |

**Ingombro / Dimensions**

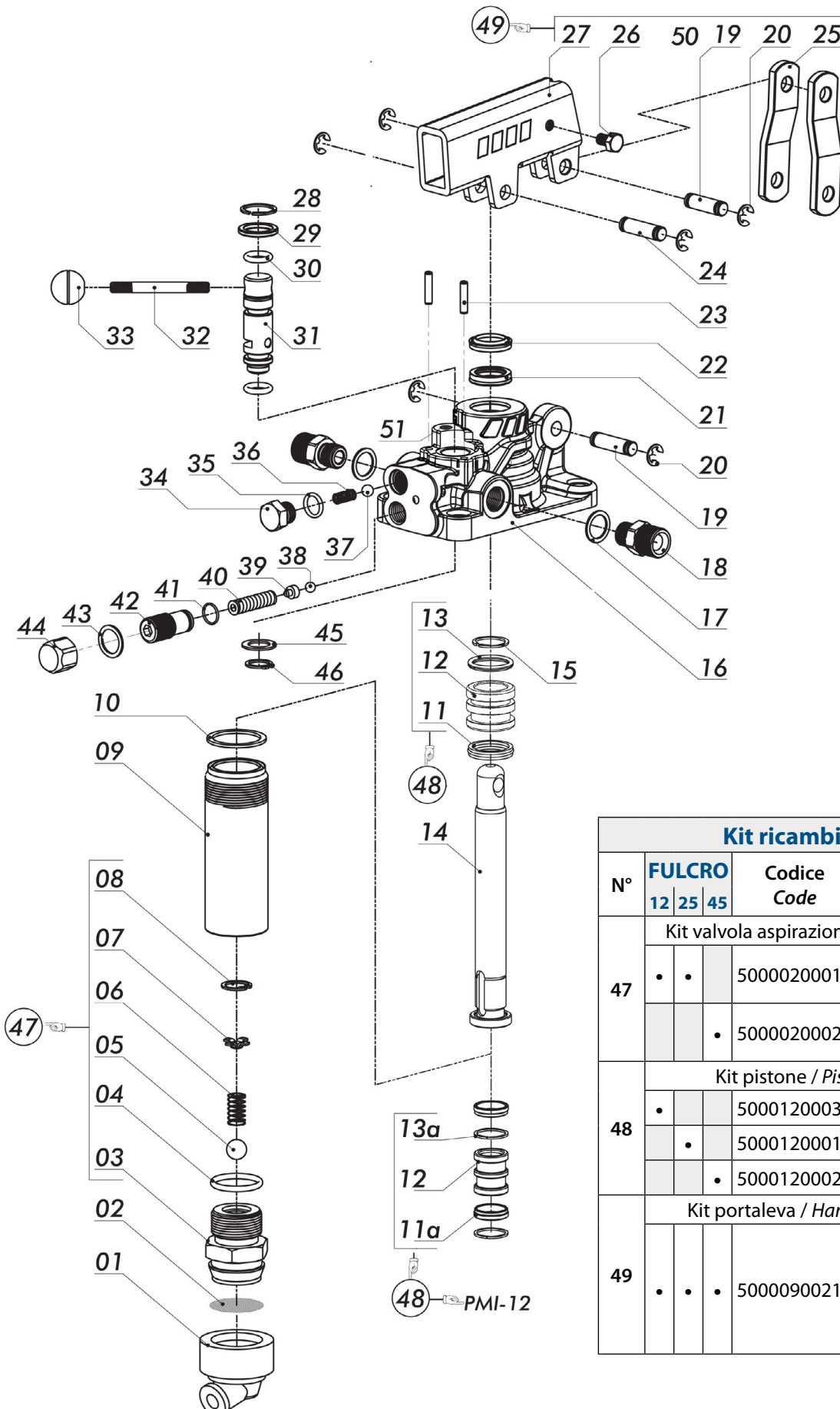


|                  | <b>A</b> | <b>A1</b> | <b>B</b> | <b>D1</b> | <b>D2</b> | <b>E</b> |
|------------------|----------|-----------|----------|-----------|-----------|----------|
|                  | mm       | mm        | mm       | °         | °         | mm       |
| <b>FULCRO 12</b> | 143      | 187       | 120      | 18,5      | 45        | 35       |
| <b>FULCRO 25</b> | 142      | 193       | 127      | 20        | 45        | 35       |
| <b>FULCRO 45</b> | 141      | 193       | 138      | 20        | 45        | 42       |

**Schema idraulico / Hydraulic layout**



Schema ricambio / Spare parts

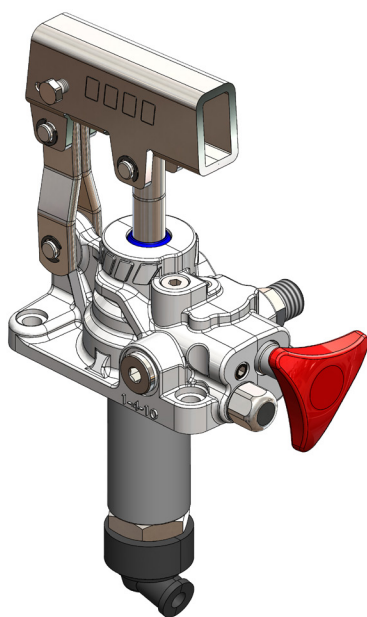


| Kit ricambi / Kit's                         |                    |                |                    |
|---|--------------------|----------------|--------------------|
| N°  | FULCRO<br>12 25 45 | Codice<br>Code | Gruppo<br>Assembly |
| Kit valvola aspirazione / Suction valve kit |                    |                |                    |
| 47  | •                  | 50000200016    |                    |
|   |                    | • 50000200025  |                    |
| Kit pistone / Piston assembly               |                    |                |                    |
| 48  | •                  | 50001200032    |                    |
|   |                    | • 50001200014  |                    |
|   |                    | • 50001200023  |                    |
| Kit portaleva / Hand lever holder kit       |                    |                |                    |
| 49  | •                  | • 50000900215  |                    |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description            | Q.                             |   |
|-----|--------|----|----|-------------|------------------------------------|--------------------------------|---|
|     | 12     | 25 | 45 |             |                                    |                                |   |
| 1   | .      | .  | .  | 5060000392  | Guarnizione portafiltro            | Suction cap                    | 1 |
| 2   | .      | .  | .  | 55000100012 | Filtro acciaio rotondo             | Steel strainer                 | 1 |
| 3   | .      | .  | .  | 54000500019 | Corpo valvola di aspirazione       | Suction valve casing           | 1 |
|     |        |    | .  | 54000500037 |                                    |                                |   |
| 4   | .      | .  | .  | 50600200201 | Guarnizione OR                     | O-ring                         | 1 |
|     |        |    | .  | 50600300095 |                                    |                                |   |
| 5   | .      | .  | .  | 51000900116 | Sfera tenuta                       | Ball                           | 1 |
| 6   | .      | .  | .  | 51200500689 | Molla valvola di aspirazione       | Spring for suction valve       | 1 |
| 7   | .      | .  | .  | 55000100101 | Guidamolla                         | Spring-guide                   | 1 |
| 8   | .      | .  | .  | 50100100113 | Anello elastico                    | Circlip                        | 1 |
| 9   | .      | .  | .  | 53700200037 | Cilindro acciaio                   | Steel stem                     | 1 |
|     |        | .  | .  | 53700200019 |                                    |                                |   |
|     |        |    | .  | 53700200028 |                                    |                                |   |
| 10  | .      | .  | .  | 11600901255 | Rondella tenuta cilindro           | Washer                         | 1 |
|     |        |    | .  | 11600901308 |                                    |                                |   |
| 11a | .      | .  | .  | 50600000516 | Guarnizione speciale               | Special gasket                 | 2 |
| 11  | .      | .  | .  | 50600000258 | Guarnizione speciale               | Special gasket                 | 1 |
|     |        |    | .  | 50600000267 |                                    |                                |   |
| 12  | .      | .  | .  | 53200200082 | Pistone                            | Piston                         | 1 |
|     |        | .  | .  | 53200200028 |                                    |                                |   |
|     |        |    | .  | 53200200037 |                                    |                                |   |
| 13a | .      | .  | .  | 55000400046 | Anello antiestrusore               | Locking ring                   | 2 |
| 13  | .      | .  | .  | 50600200158 | Guarnizione OR                     | O-ring                         | 1 |
|     |        |    | .  | 50600200229 |                                    |                                |   |
| 14  | .      | .  | .  | 53500100069 | Stelo                              | Piston rod                     | 1 |
|     |        | .  | .  | 53500100078 |                                    |                                |   |
|     |        |    | .  | 53500100086 |                                    |                                |   |
| 15  | .      | .  | .  | 50101100086 | Anello elastico                    | Circlip                        | 1 |
|     |        | .  | .  | 50101100111 |                                    |                                |   |
|     |        |    | .  | 50101100148 |                                    |                                |   |
| 16  | .      | .  | .  | 51700195037 | Corpo pompa a mano                 | Hand pump housing              | 1 |
|     |        | .  | .  | 51700195215 |                                    |                                |   |
|     |        |    | .  | 51700195493 |                                    |                                |   |
| 17  | .      | .  | .  | 11600900158 | Rondella utilizzi                  | Washer                         | 2 |
| 18  | .      | .  | .  | 11600692599 | Nipplo utilizzi                    | Pressure nipple                | 2 |
| 19  | .      | .  | .  | 52600190953 | Spinotto lunghezza 26mm            | Gudgeon Pin 26mm               | 2 |
| 20  | .      | .  | .  | 50101590280 | Anello elastico                    | Circlip                        | 6 |
|     |        | .  | .  | 50600001926 |                                    |                                |   |
| 21  | .      | .  | .  | 50600001935 | Guarnizione a labbro               | Lip seal                       | 1 |
|     |        | .  | .  | 50600001944 |                                    |                                |   |
|     |        |    | .  | 50600002729 |                                    |                                |   |
| 22  | .      | .  | .  | 50600002701 | Guarnizione raschiapolvere         | Wiper seal                     | 1 |
|     |        |    | .  | 50600002738 |                                    |                                |   |
| 23  | .      | .  | .  | 50100400058 | Spina elastica                     | Spring pins                    | 2 |
| 24  | .      | .  | .  | 52600190864 | Spinotto                           | Gudgeon Pin                    | 1 |
| 25  | .      | .  | .  | 53800190814 | Biella                             | Brackets                       | 2 |
| 26  | .      | .  | .  | 50200290121 | Vite blocco leva                   | Locking lever screw            | 1 |
| 27  | .      | .  | .  | 53900192123 | Portaleva                          | Lever holder                   | 1 |
| 28  | .      | .  | .  | 50101191023 | Anello elastico                    | Circlip                        | 1 |
| 29  | .      | .  | .  | 50600000963 | Guarnizione protezione stelo       | Seal                           | 2 |
| 30  | .      | .  | .  | 50600200041 | Guarnizione OR                     | O-ring                         | 1 |
| 31  | .      | .  | .  | 53600100030 | Stelo invertitore                  | Diverter rod                   | 1 |
| 32  | .      | .  | .  | 52900490319 | Leva per invertitore               | Directional control lever      | 1 |
| 33  | .      | .  | .  | 50900100073 | Pomello rosso                      | Red knob                       | 1 |
| 34  | .      | .  | .  | 54000393609 | Tappo valvola di ritegno           | Non-return valve cover         | 1 |
| 35  | .      | .  | .  | 50601910200 | Guarnizione OR                     | O-ring                         | 1 |
| 36  | .      | .  | .  | 51200501428 | Molla valvola di ritegno           | Non-return valve spring        | 1 |
| 37  | .      | .  | .  | 51000900054 | Sfera tenuta di ritegno            | Non-return ball                | 2 |
| 38  | .      | .  | .  | 51000900045 | Sfera tenuta valvola di massima    | Relief valve ball              | 1 |
| 39  | .      | .  | .  | 54200100073 | Pistone guidamolla                 | Guide-spring pin               | 1 |
| 40  | .      | .  | .  | 51200500312 | Molla valvola di massima           | Relief valve spring            | 1 |
| 41  | .      | .  | .  | 50601910102 | Guarnizione OR                     | O-ring                         | 1 |
| 42  | .      | .  | .  | 50400000458 | Grano registro valvola di massima  | Setting screw for relief valve | 1 |
| 43  | .      | .  | .  | 11600900201 | Rondella tenuta valvola di massima | Washer                         | 1 |
| 44  | .      | .  | .  | 54000691162 | Tappo chiusura valvola di massima  | Relief valve cover             | 1 |
| 45  | .      | .  | .  | 53000100489 | Distanziale                        | Spacer                         | 1 |
| 46  | .      | .  | .  | 50100200103 | Anello elastico                    | Circlip                        | 1 |
| 51  | .      | .  | .  | 50401090181 | Grano conico 1/16" NPTF            | Conical plug 1/16" NPTF        | 1 |

**Dati tecnici / Technical data**

| <b>Tipo pompa</b><br>Pump type | <b>Taratura standard</b><br>Standard pressure setting<br>bar | <b>Taratura massima</b><br>Max. pressure setting<br>bar | <b>Cilindrata</b><br>Displacement  |                                |                                  | <b>Peso</b><br>Weight<br>kg |
|--------------------------------|--|---|------------------------------------|--------------------------------|----------------------------------|-----------------------------|
|                                |  |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                             |
| <b>FULCRO 12</b>               | 160  | 300   | 12                                 | 6,1                            | 5,9                              | 2,8                         |
| <b>FULCRO 25</b>               | 160  | 300   | 25                                 | 13,4                           | 11,6                             | 2,9                         |
| <b>FULCRO 45</b>               | 160  | 270   | 45                                 | 23,7                           | 21,3                             | 3,2                         |



Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva) per impianti a doppio effetto, direttamente flangiabili su serbatoio e con rubinetto di scarico a tenuta conica incorporato. Sono disponibili in tre diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. **BASSE TEMPERATURE -40°C.**

*Double acting hand pumps (the pump delivers oil both pushing and pulling the lever) suitable to operate double acting applications. They can be fitted also onto tank and are equipped with tapered lowering valve. These hand pumps can have 3 different sizes to perform various applications and to achieve smoother loads on the lever. **LOW TEMPERATURE -40°C.***

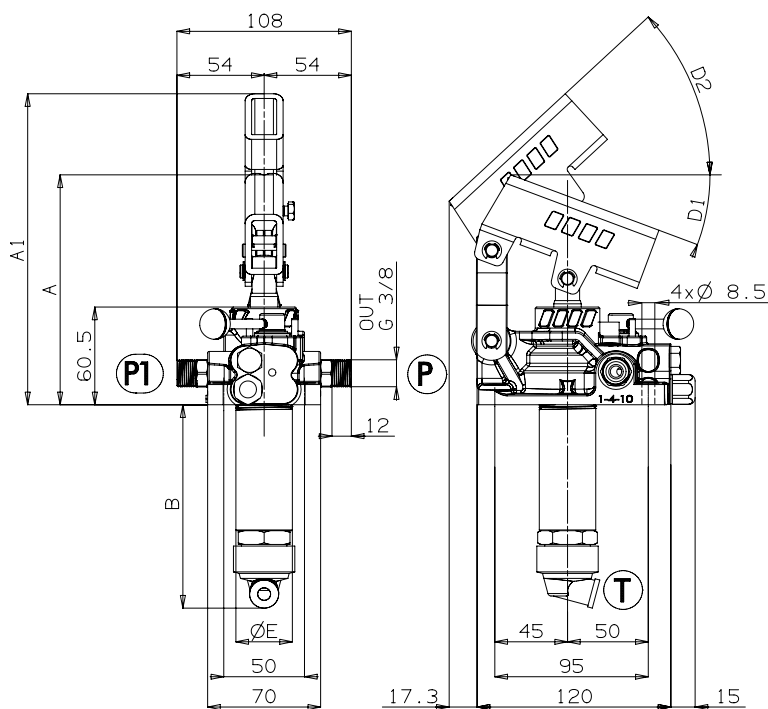
**Codice di ordinazione (senza leva)**  
*Order code (without lever)*

|   | <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|---|------------------|------------------|------------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> | 10690321197      | 10690313197      | 10690313286      |



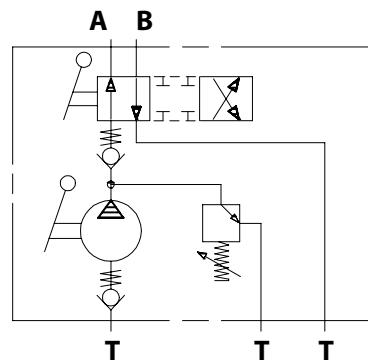
**Collegamenti / Link:**  
[Serbatoi / Tanks](#)

**Ingombro / Dimensions**



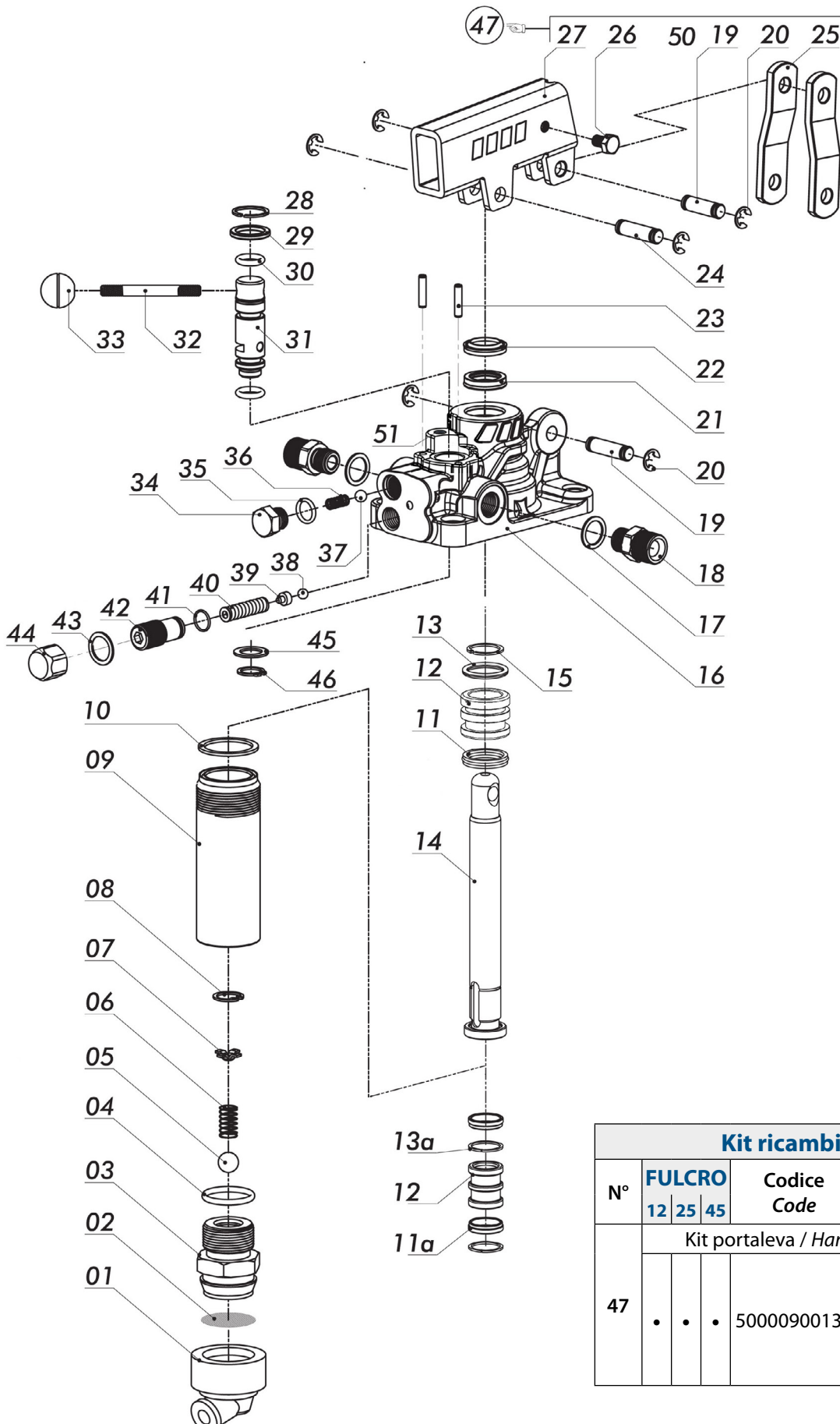
|                  | <b>A</b>  | <b>A1</b> | <b>B</b>  | <b>D1</b> | <b>D2</b> | <b>E</b>  |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  | <i>mm</i> | <i>mm</i> | <i>mm</i> | <i>°</i>  | <i>°</i>  | <i>mm</i> |
| <b>FULCRO 12</b> | 143       | 187       | 120       | 18,5      | 45        | 35        |
| <b>FULCRO 25</b> | 142       | 193       | 127       | 20        | 45        | 35        |
| <b>FULCRO 45</b> | 141       | 193       | 138       | 20        | 45        | 42        |

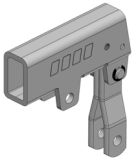
**Schema idraulico / Hydraulic layout**





Schema ricambio / Spare parts



| Kit ricambi / Kit's                   |              |             |   |
|---------------------------------------|--------------|-------------|---|
| N°                                    | FULCRO       | Codice Code | Gruppo Assembly   |
|                                       | 12   25   45 |             |   |
| Kit portaleva / Hand lever holder kit |              |             |   |
| 47                                    | • • •        | 50000900135 |  |

| N°  | FULCRO |    |    | Codice Code | Descrizione Description            | Q.                             |   |
|-----|--------|----|----|-------------|------------------------------------|--------------------------------|---|
|     | 12     | 25 | 45 |             |                                    |                                |   |
| 1   | .      | .  | .  | 5060000427  | Guarnizione portafiltro            | Suction cap                    | 1 |
| 2   | .      | .  | .  | 55000100012 | Filtro acciaio rotondo             | Steel strainer                 | 1 |
| 3   | .      | .  | .  | 54000500019 | Corpo valvola di aspirazione       | Suction valve casing           | 1 |
|     |        |    | .  | 54000500037 |                                    |                                |   |
| 4   | .      | .  | .  | 50600000802 | Guarnizione OR                     | O-ring                         | 1 |
|     |        |    | .  | 50600000972 |                                    |                                |   |
| 5   | .      | .  | .  | 51000900116 | Sfera tenuta                       | Ball                           | 1 |
| 6   | .      | .  | .  | 51200500689 | Molla valvola di aspirazione       | Spring for suction valve       | 1 |
| 7   | .      | .  | .  | 55000100101 | Guidamolla                         | Spring-guide                   | 1 |
| 8   | .      | .  | .  | 50100100113 | Anello elastico                    | Circlip                        | 1 |
| 9   | .      | .  | .  | 53700200037 | Cilindro acciaio                   | Steel stem                     | 1 |
|     |        | .  | .  | 53700200019 |                                    |                                |   |
|     |        |    | .  | 53700200028 |                                    |                                |   |
| 10  | .      | .  | .  | 11600901255 | Rondella tenuta cilindro           | Washer                         | 1 |
|     |        |    | .  | 11600901308 |                                    |                                |   |
| 11a | .      | .  | .  | 50600000516 | Guarnizione speciale               | Special gasket                 | 2 |
| 11  | .      | .  | .  | 50600000258 | Guarnizione speciale               | Special gasket                 | 1 |
|     |        |    | .  | 50600000267 |                                    |                                |   |
| 12  | .      | .  | .  | 53200200082 | Pistone                            | Piston                         | 1 |
|     |        | .  | .  | 53200200028 |                                    |                                |   |
|     |        |    | .  | 53200200037 |                                    |                                |   |
| 13a | .      | .  | .  | 55000400046 | Anello antiestrusore               | Locking ring                   | 2 |
| 13  | .      | .  | .  | 50600200158 | Guarnizione OR                     | O-ring                         | 1 |
|     |        |    | .  | 50600200229 |                                    |                                |   |
| 14  | .      | .  | .  | 53500100069 | Stelo                              | Piston rod                     | 1 |
|     |        | .  | .  | 53500100078 |                                    |                                |   |
|     |        |    | .  | 53500100086 |                                    |                                |   |
| 15  | .      | .  | .  | 50101100086 | Anello elastico                    | Circlip                        | 1 |
|     |        | .  | .  | 50101100111 |                                    |                                |   |
|     |        |    | .  | 50101100148 |                                    |                                |   |
| 16  | .      | .  | .  | 51700100503 | Corpo pompa a mano                 | Hand pump housing              | 1 |
|     |        | .  | .  | 51700100521 |                                    |                                |   |
|     |        |    | .  | 51700100549 |                                    |                                |   |
| 17  | .      | .  | .  | 11600900158 | Rondella utilizzi                  | Washer                         | 2 |
| 18  | .      | .  | .  | 11600600259 | Nipplo utilizzi                    | Pressure nipple                | 2 |
| 19  | .      | .  | .  | 52600100095 | Spinotto lunghezza 26mm            | Gudgeon Pin 26mm               | 2 |
| 20  | .      | .  | .  | 50101500028 | Anello elastico                    | Circlip                        | 6 |
|     |        | .  | .  | 50600001926 |                                    |                                |   |
| 21  | .      | .  | .  | 50600001935 | Guarnizione a labbro               | Lip seal                       | 1 |
|     |        | .  | .  | 50600001944 |                                    |                                |   |
|     |        |    | .  | 50600002729 |                                    |                                |   |
| 22  | .      | .  | .  | 50600002701 | Guarnizione raschiapolvere         | Wiper seal                     | 1 |
|     |        |    | .  | 50600002738 |                                    |                                |   |
| 23  | .      | .  | .  | 50100400058 | Spina elastica                     | Spring pins                    | 2 |
| 24  | .      | .  | .  | 52600100086 | Spinotto                           | Gudgeon Pin                    | 1 |
| 25  | .      | .  | .  | 53800100081 | Biella                             | Brackets                       | 2 |
| 26  | .      | .  | .  | 50200200012 | Vite blocco leva                   | Locking lever screw            | 1 |
| 27  | .      | .  | .  | 53900100212 | Portaleva                          | Lever holder                   | 1 |
| 28  | .      | .  | .  | 50101100102 | Anello elastico                    | Circlip                        | 1 |
| 29  | .      | .  | .  | 50600000963 | Guarnizione protezione stelo       | Seal                           | 2 |
| 30  | .      | .  | .  | 50600013043 | Guarnizione OR                     | O-ring                         | 1 |
| 31  | .      | .  | .  | 53600100030 | Stelo invertitore                  | Diverter rod                   | 1 |
| 32  | .      | .  | .  | 53900400031 | Leva per invertitore               | Directional control lever      | 1 |
| 33  | .      | .  | .  | 50900100073 | Pomello rosso                      | Red knob                       | 1 |
| 34  | .      | .  | .  | 54000300360 | Tappo valvola di ritegno           | Non-return valve cover         | 1 |
| 35  | .      | .  | .  | 50600011020 | Guarnizione OR                     | O-ring                         | 1 |
| 36  | .      | .  | .  | 51200501428 | Molla valvola di ritegno           | Non-return valve spring        | 1 |
| 37  | .      | .  | .  | 51000900054 | Sfera tenuta di ritegno            | Non-return ball                | 2 |
| 38  | .      | .  | .  | 51000900045 | Sfera tenuta valvola di massima    | Relief valve ball              | 1 |
| 39  | .      | .  | .  | 54200100073 | Pistone guidamolla                 | Guide-spring pin               | 1 |
| 40  | .      | .  | .  | 51200500312 | Molla valvola di massima           | Relief valve spring            | 1 |
| 41  | .      | .  | .  | 50600011010 | Guarnizione OR                     | O-ring                         | 1 |
| 42  | .      | .  | .  | 50400000458 | Grano registro valvola di massima  | Setting screw for relief valve | 1 |
| 43  | .      | .  | .  | 11600900201 | Rondella tenuta valvola di massima | Washer                         | 1 |
| 44  | .      | .  | .  | 54000600116 | Tappo chiusura valvola di massima  | Relief valve cover             | 1 |
| 45  | .      | .  | .  | 53000100489 | Distanziale                        | Spacer                         | 1 |
| 46  | .      | .  | .  | 50100200103 | Anello elastico                    | Circlip                        | 1 |
| 51  | .      | .  | .  | 50401000018 | Grano conico 1/16" NPTF            | Conical plug 1/16" NPTF        | 1 |

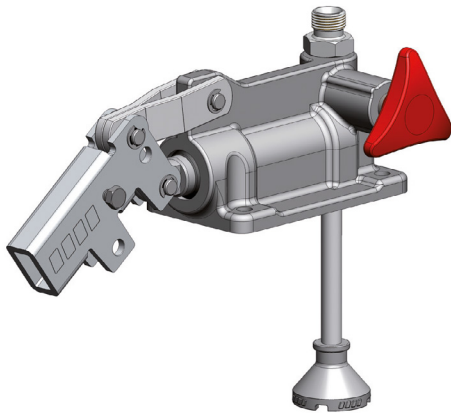
**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Taratura standard<br>Standard pressure setting<br>bar | Taratura massima<br>Max. pressure setting<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|---|--|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |   |  | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>FULCRO 12</b>        | 160   | 300  | 12                                 | 6,1                            | 5,9                              | 2,8                  |
| <b>FULCRO 25</b>        | 160   | 300  | 25                                 | 13,4                           | 11,6                             | 2,9                  |
| <b>FULCRO 45</b>        | 160   | 270  | 45                                 | 23,7                           | 21,3                             | 3,2                  |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -40° +100°C |        |       |      |

**Kit guarnizioni / Seal kit**

| <b>FULCRO 12</b> | <b>FULCRO 25</b> | <b>FULCRO 45</b> |
|------------------|------------------|------------------|
| 10690010111      | 10690010120      | 10690010139      |

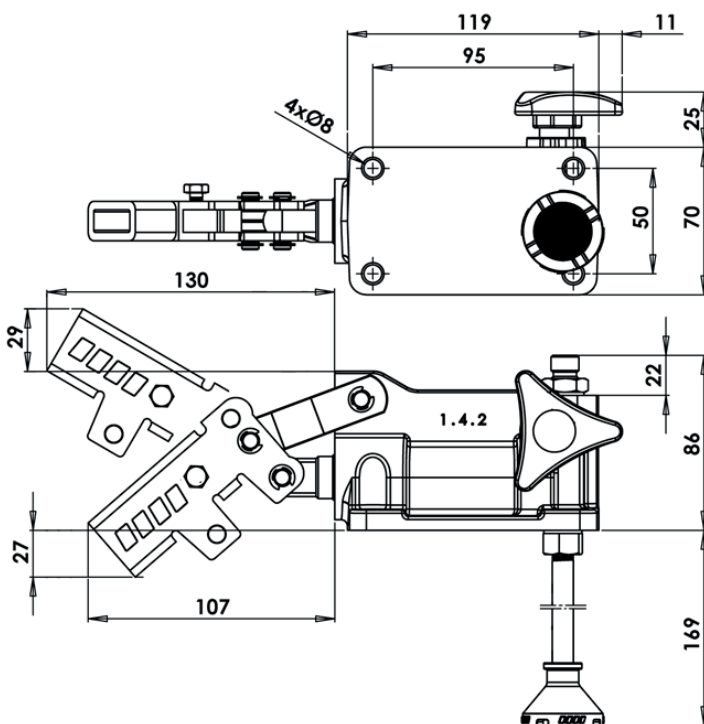
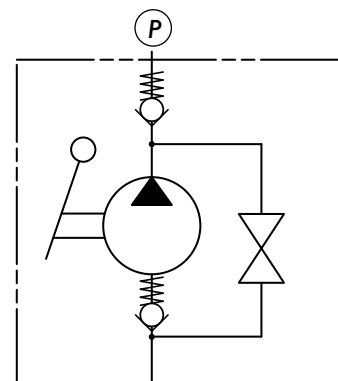


Pompe a mano con azionamento a semplice effetto (la pompa eroga olio solo se si spinge la leva), con rubinetto di scarico per impianti a semplice effetto o senza rubinetto per impianti d'emergenza. Sono disponibili in due diverse cilindrate per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento di zincatura bianca e lo stelo in acciaio cromato.

Hand pumps with simple effect activation (the pump delivers oil only when you push the lever), wheter with drainage tap for simple effect installations or without tap for emergency installations. Available in two different capacities to allow several applications and to limit the effort on the lever in any situation. The body is in cast-iron with white galvanization and the stem is in chromate steel.

**Codice di ordinazione (senza leva)**
*Order code (without lever)*

|   |    | PMSE 10     | PMSE 15     |
|---|----|-------------|-------------|
| <b>Senza serbatoio</b><br><i>Without tank</i> |    | 10603600030 | 10603600058 |
| <b>Con serbatoio</b><br><i>With tank</i>      | 1  | 10603000027 | 10603200025 |
|   | 2  | 10603000045 | 10603200043 |
|   | 3  | 10603000063 | 10603200061 |
|   | 4  | 10603000072 | 10603200070 |
|   | 5  | 10603000081 | 10603200089 |
|   | 7  | 10603000900 | 10603200098 |
|   | 10 | 10603000107 | 10603200105 |

**Ingombro / Dimensions**

**Schema idraulico / Hydraulic layout**


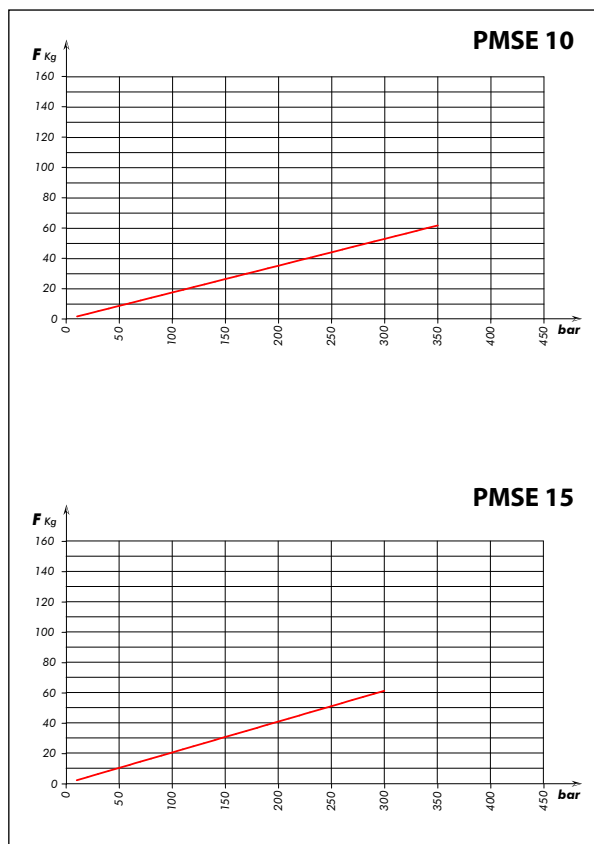
**Dati tecnici / Technical data**

| Tipo pompa<br><i>Pump type</i> | Pressione massima<br><i>Max. pressure</i> | Cilindrata<br><i>Displacement</i> | Peso<br><i>Weight</i> |
|--------------------------------|---|-----------------------------------|-----------------------|
|                                | <i>bar</i>                                | <i>cm<sup>3</sup></i>             | <i>kg</i>             |
| <b>PMSE 10</b>                 | 350                                       | 10                                | 2,3                   |
| <b>PMSE 15</b>                 | 300                                       | 15                                | 2,4                   |

|  |   |             |        |       |      |
|--|---|-------------|--------|-------|------|
| Fluido idraulico<br><i>Fluid</i>   | Minerale o sintetico compatibile con guarnizioni:<br><i>Mineral or synthetic compatible with the following seals:</i><br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br><i>Kinematic viscosity suggested</i> | T media ambiente (°C)<br><i>Average ambient temp. (°C)</i>  | < -10       | -10÷10 | 10÷35 | > 35 |
|  | VG (cSt = mm <sup>2</sup> /s)   | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br><i>Working temperature</i>                    |   | -15° +110°C |        |       |      |

**Kit guarnizioni / Seal kit**
**PMSE 10 / PMSE 15**

10690000104

**Sforzo in fase di pompaggio con leva standard**  
*Load while pumping with standard lever*


**Alluminio-Plastica / Aluminium-Plastic**

|                    |                    |                    |                    |                    |                    |                      |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|
| 1 litro / 1 litre  | 2 litri / 2 litres | 3 litri / 3 litres | 4 litri / 4 litres | 5 litri / 5 litres | 7 litri / 7 litres | 10 litri / 10 litres |
|                    |                    |                    |                    |                    |                    |                      |
| 1,2 Kg             | 1,8 Kg             | 1,9 Kg             | 1,9 Kg             | 2 Kg               | 2,4 Kg             | 2,9 Kg               |
| <b>10680000105</b> | <b>10680000025</b> | <b>10680000034</b> | <b>10680000040</b> | <b>10680000043</b> | <b>10680000052</b> | <b>10680000061</b>   |

**Alluminio / Aluminium**

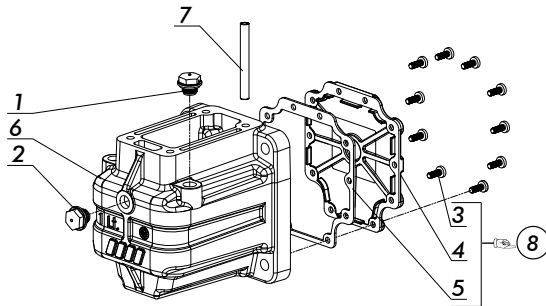
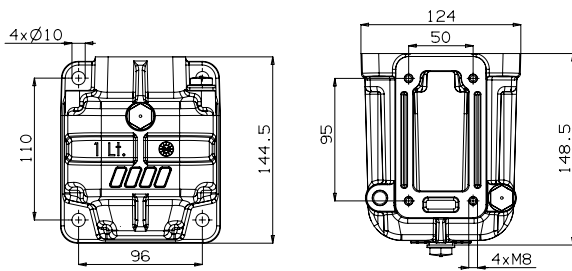
|                    |                    |                    |                    |                      |
|--------------------|--------------------|--------------------|--------------------|----------------------|
| 1 litro / 1 litre  | 2 litri / 2 litres | 3 litri / 3 litres | 5 litri / 5 litres | 10 litri / 10 litres |
|                    |                    |                    |                    |                      |
| 1,2 Kg             | 1,9 Kg             | 2 Kg               | 2,5 Kg             | 5,2 Kg               |
| <b>10680000016</b> | <b>10680000203</b> | <b>10680000301</b> | <b>10680000507</b> | <b>10680001006</b>   |

**Acciaio / Steel**

|                    |                    |                    |                    |                    |                      |
|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|
| 1 litro / 1 litre  | 2 litri / 2 litres | 3 litri / 3 litres | 5 litri / 5 litres | 7 litri / 7 litres | 10 litri / 10 litres |
|                    |                    |                    |                    |                    |                      |
| 2,1 Kg             | 2,8 Kg             | 3,5 Kg             | 4,6 Kg             | 5,7 Kg             | 7,5 Kg               |
| <b>10680010014</b> | <b>10680010023</b> | <b>10680010032</b> | <b>10680010050</b> | <b>10680010078</b> | <b>10680010103</b>   |

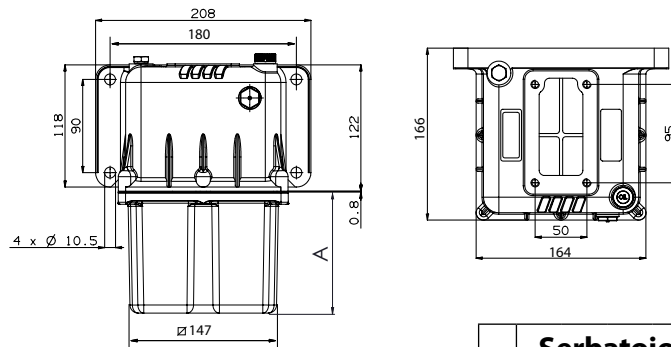


**Serbatoio 1 litro / Tank 1 litre**

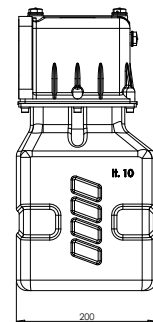


| N°                          | Codice / P. Number |   | Q. |
|-----------------------------|--------------------|---|----|
| 1                           | 50900500131        | Tappo sfiato/Breather cap 1/4"                        | 1  |
| 2                           | 50900600121        | Tappo livello/Level cap 1/4"                          | 1  |
| 3                           | 50200000872        | Vite trilobata/Trefoil screw                          | 10 |
| 4                           | 50900000912        | Coperchio plastica/Plastic cover                      | 1  |
| 5                           | 50600002158        | Guarnizione/Gasket                                    | 1  |
| 6                           | 51400300105        | Serbatoio/Tank  | 1  |
| 7                           | 54100100011        | Tubo aspirazione/xxxx                                 | 1  |
| <b>Kit ricambio / Kit's</b> |                    |   |    |
| 8                           | 10680001113        | Coperchio completo plastica<br>Complete plastic cover | 1  |

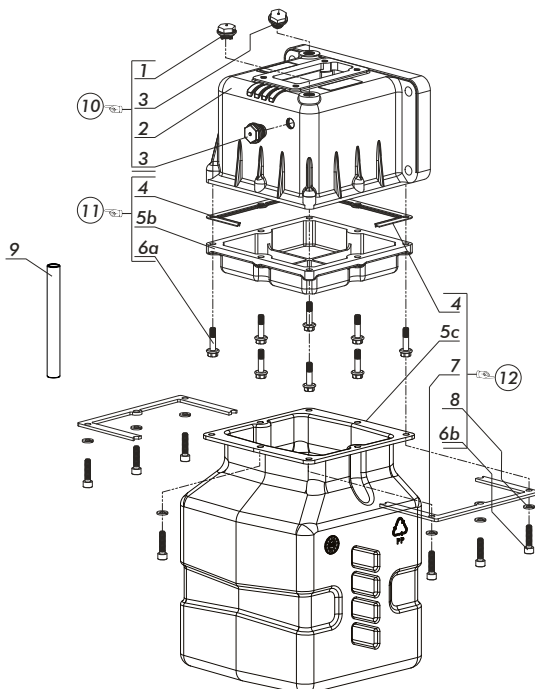
**Serbatoi 2/3/4/5/7/10 litri / Tanks 2/3/4/5/7/10 litres**



Lt 10

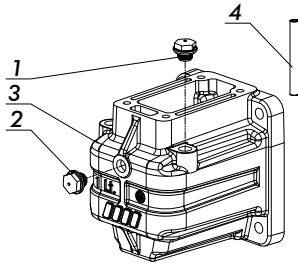
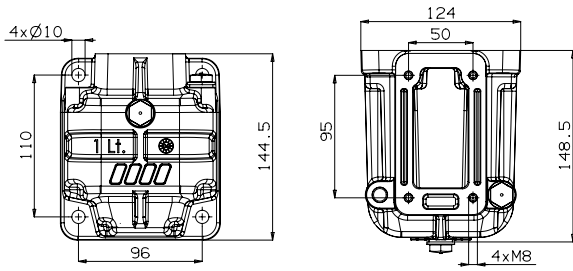


| lit | 2  | 3  | 4   | 5   | 7   | 10  |
|-----|----|----|-----|-----|-----|-----|
| A   | 32 | 72 | 116 | 182 | 302 | 268 |



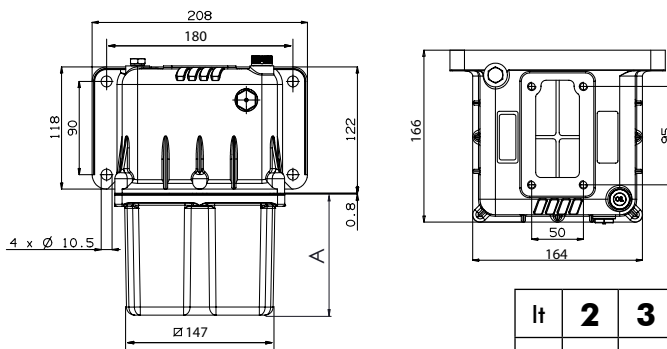
| N°                          | Serbatoio l / Tank |   |   |   |   |    | Codice<br>P. Number | Q.  |                  |   |
|-----------------------------|--------------------|---|---|---|---|----|---------------------|---|------------------|---|
|                             | 2                  | 3 | 4 | 5 | 7 | 10 |                     |   |                  |   |
| 1                           | .                  | . | . | . | . | .  | 50900500131         | Tappo sfiato/Breather cap 1/4"                      | 1                |   |
| 2                           | .                  | . | . | . | . | .  | 51400300089         | Serbatoio/Tank                                      | 1                |   |
| 3                           | .                  | . | . | . | . | .  | 50900600121         | Tappo livello/Level cap 1/4"                        | 2                |   |
| 4                           | .                  | . | . | . | . | .  | 50600000463         | Guarnizione/Gasket                                  | 1                |   |
|                             | .                  | . | . | . | . | .  | 50600003666         |   | 1                |   |
| 5b                          | .                  | . | . | . | . | .  | 51400800020         | Coperchio serbatoio<br>Tank cover                   | 1                |   |
|                             | .                  | . | . | . | . | .  | 51400800039         |   | 1                |   |
|                             | .                  | . | . | . | . | .  | 51400800048         |   | 1                |   |
|                             | .                  | . | . | . | . | .  | 51400800057         |   | 1                |   |
| 5c                          | .                  | . | . | . | . | .  | 51400800075         | Coperchio serbatoio<br>Tank cover                   | 1                |   |
|                             | .                  | . | . | . | . | .  | 51400910107         |   | 1                |   |
| 6a                          | .                  | . | . | . | . | .  | 50200210207         | Vite/Screw TE M6x25                                 | 8                |   |
| 6b                          | .                  | . | . | . | . | .  | 50200200478         | Vite/Screw TCE M6x25                                | 8                |   |
| 7                           | .                  | . | . | . | . | .  | 53800000911         | Staffa supporto/ Mounting brackets                  | 2                |   |
| 8                           | .                  | . | . | . | . | .  | 50102400063         | Rosetta elastica/ Washer                            | 8                |   |
|                             | .                  | . | . | . | . | .  | 54100100020         |   | 1                |   |
|                             | .                  | . | . | . | . | .  | 54100400036         |   | 1                |   |
|                             | .                  | . | . | . | . | .  | 54100400152         |   | Tubo aspirazione | 1 |
|                             | .                  | . | . | . | . | .  | 54100400054         |   | xxxx             | 1 |
| 9                           | .                  | . | . | . | . | .  | 54100400072         | Tubo aspirazione<br>xxxx                            | 1                |   |
|                             | .                  | . | . | . | . | .  | 54100400081         |   | 1                |   |
|                             | .                  | . | . | . | . | .  | 54100400081         |   | 1                |   |
| <b>Kit ricambio / Kit's</b> |                    |   |   |   |   |    |                     |   |                  |   |
| 10                          | .                  | . | . | . | . | .  | 106-800-01015       | Base per serbatoio/Base for tank                    |                  |   |
|                             | .                  | . | . | . | . | .  | 106-800-01024       |   |                  |   |
|                             | .                  | . | . | . | . | .  | 106-800-01033       |   |                  |   |
| 11                          | .                  | . | . | . | . | .  | 106-800-01042       | Coperchio completo serbatoio<br>Complete tank cover |                  |   |
|                             | .                  | . | . | . | . | .  | 106-800-01051       |   |                  |   |
|                             | .                  | . | . | . | . | .  | 106-800-01060       |   |                  |   |
| 12                          | .                  | . | . | . | . | .  | 106-800-01097       |   |                  |   |

**Serbatoio 1 litro / Tank 1 litre**



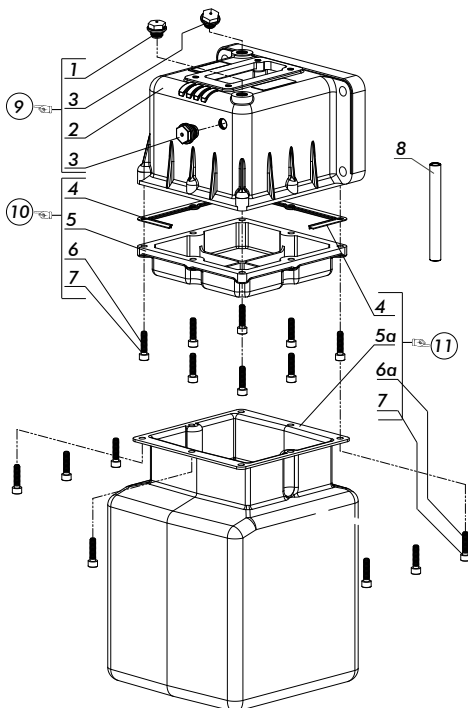
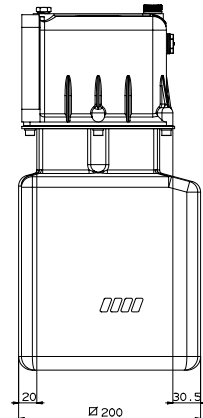
| N° | Codice / P. Number |                                  | Q. |
|----|--------------------|----------------------------------|----|
| 1  | 50900500131        | Tappo sfiato / Breather cap 1/4" | 1  |
| 2  | 50900400098        | Tappo livello / Level cap 1/4"   | 1  |
| 3  | 51400300098        | Serbatoio / Tank                 | 1  |
| 4  | 54100100011        | Tube aspirazione/xxxx            | 1  |

**Serbatoi 2/3/4/5/7/10 litri / Tanks 2/3/4/5/7/10 litres**

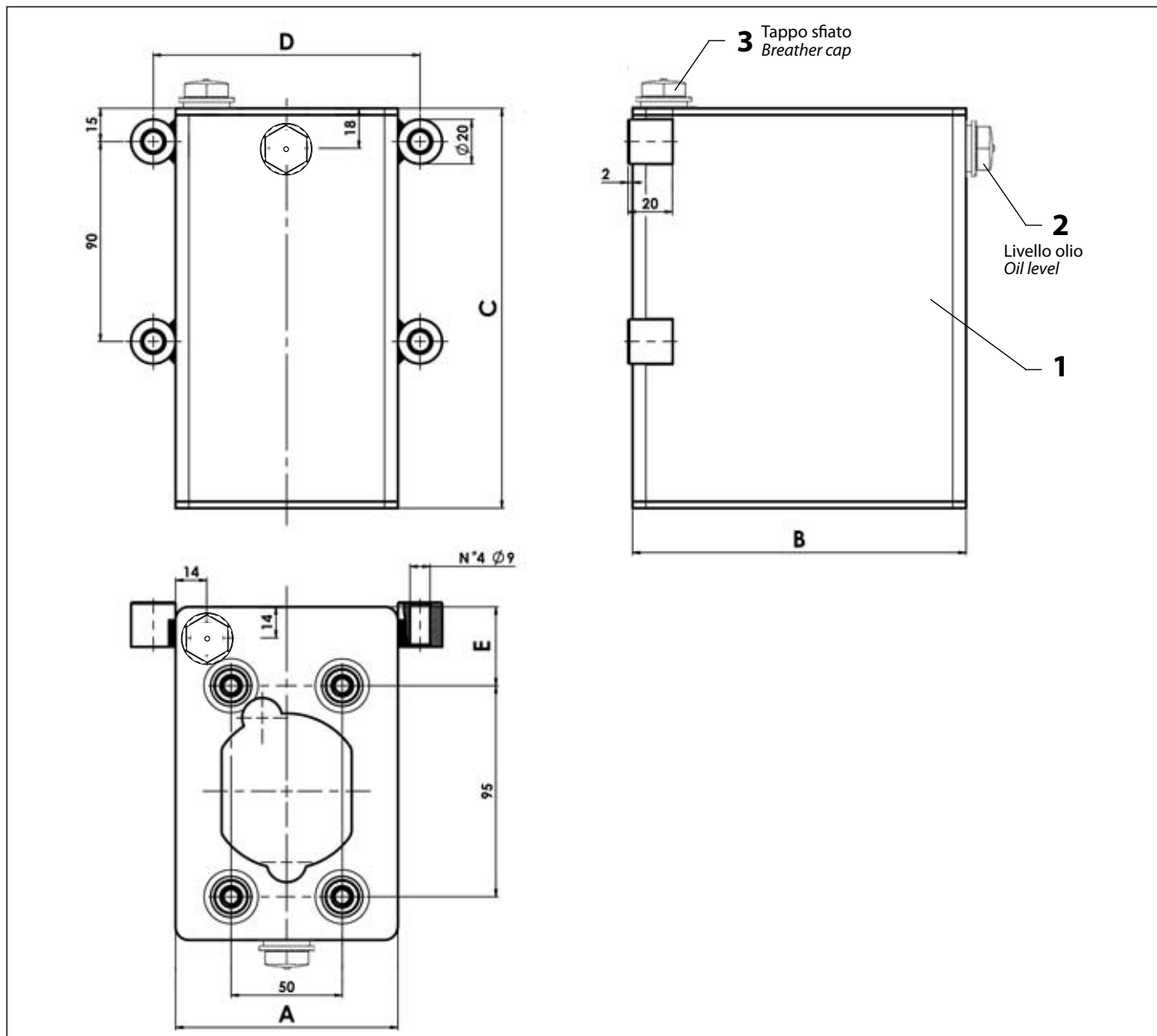


| lit | 2  | 3  | 5   | 10  |
|-----|----|----|-----|-----|
| A   | 32 | 72 | 182 | 268 |

Lt 10



| N°                          | Serbatoio l / tank |   |   |    | Codice<br>P. Number |                                  | Q. |
|-----------------------------|--------------------|---|---|----|---------------------|----------------------------------|----|
|                             | 2                  | 3 | 5 | 10 |                     |                                  |    |
| 1                           | .                  | . | . | .  | 50900500131         | Tappo sfiato/Breather cap 1/4"   | 1  |
| 2                           | .                  | . | . | .  | 51400300089         | Serbatoio/Tank                   | 1  |
| 3                           | .                  | . | . | .  | 50900600121         | Tappo livello/Level cap 1/4"     | 2  |
| 4                           | .                  | . | . | .  | 50700300431         | Guarnizione/Gasket               | 1  |
|                             |                    |   |   |    | 51400500069         |                                  | 1  |
| 5                           | .                  | . | . | .  | 51400500078         | Coperchio serbatoio              | 1  |
|                             |                    |   |   |    | 51400500087         | Tank cover                       | 1  |
| 5a                          |                    |   |   | .  | 51400500050         |                                  | 1  |
| 6                           | .                  | . | . | .  | 50200200441         | Vite/Screw TCE M6x18             | 8  |
| 6a                          | .                  | . | . | .  | 50200200478         | Vite/Screw TCE M6x25             | 8  |
| 7                           | .                  | . | . | .  | 50101800052         | Rosetta elastica/Washer          | 8  |
|                             |                    |   |   |    | 54100100020         |                                  |    |
| 8                           | .                  | . | . | .  | 54100400036         | Tube aspirazione                 | 1  |
|                             |                    |   |   |    | 54100400054         | xxxx                             |    |
|                             |                    |   |   |    | 54100400081         |                                  |    |
| <b>Kit ricambio / Kit's</b> |                    |   |   |    |                     |                                  |    |
| 9                           | .                  | . | . | .  | 10680001015         | Base per serbatoio/Base for tank |    |
|                             |                    |   |   |    | 10680002023         |                                  |    |
| 10                          | .                  | . | . | .  | 10680002032         | Coperchio completo serbatoio     |    |
|                             |                    |   |   |    | 10680002050         | Complete tank cover              |    |
| 11                          | .                  | . | . | .  | 10680002103         |                                  |    |





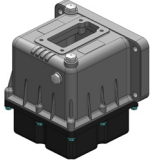


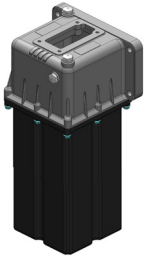
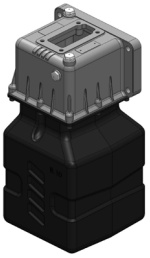
| N° | Corpo serbatoio<br>Tank body | Capacità<br>Capacity | A   | B   | C   | D   | E    |
|----|------------------------------|----------------------|-----|-----|-----|-----|------|
| 1  | 51400310014                  | 1 lt                 | 100 | 150 | 140 | 120 | 35,5 |
|    | 51400310023                  | 2 lt                 | 100 | 150 | 180 | 120 | 35,5 |
|    | 51400310032                  | 3 lt                 | 100 | 150 | 247 | 120 | 35,5 |
|    | 51400310050                  | 5 lt                 | 175 | 175 | 200 | 195 | 61   |
|    | 51400310078                  | 7 lt                 | 175 | 175 | 269 | 195 | 61   |
|    | 51400310103                  | 10 lt                | 175 | 175 | 376 | 195 | 61   |

| N° | Codice<br>Code                             | Q.tà<br>Q.ty |
|----|--|--------------|
| 2  | 50900400098<br>Livello olio / Oil level    | 1            |
| 3  | 50900500131<br>Tappo sfiato / Breather cap | 1            |


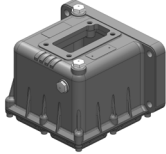
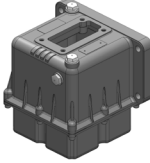

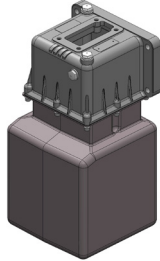
Trattamento superficiale: verniciatura elettrolitica poliesteri  
 Colore: nero RAL 9005 semiopaco

Protective treatment: electrolytic polyester coating  
 Color: Black RAL 9005

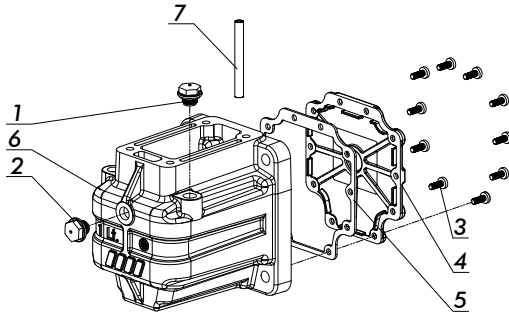
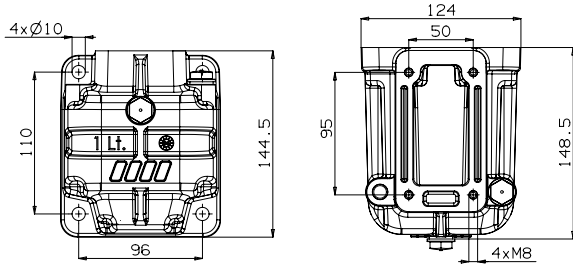
**Alluminio-Plastica / Aluminium-Plastic**

|   |   |   |   |  |   |   |
|---|---|---|---|--|---|---|
| 1 litro / 1 litre   | 2 litri / 2 litres  | 3 litri / 3 litres  | 4 litri / 4 litres  | 5 litri / 5 litres   | 7 litri / 7 litres  | 10 litri / 10 litres  |
|  |  |  |  |  |  |  |
| 1,2 Kg  | 1,8 Kg  | 1,9 Kg  | 1,9 Kg  | 2 Kg   | 2,4 Kg  | 2,9 Kg  |
| <b>10680130019</b>  | <b>10680130028</b>  | <b>10680130037</b>  | <b>10680130046</b>  | <b>10680130055</b>   | <b>10680130073</b>  | <b>10680130108</b>  |

**Alluminio / Aluminium**

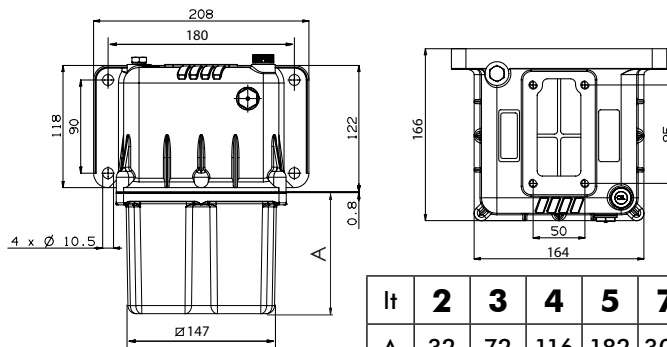
|   |   |   |  |  |
|---|---|---|--|--|
| 1 litro / 1 litre   | 2 litri / 2 litres  | 3 litri / 3 litres  | 5 litri / 5 litres   | 10 litri / 10 litres   |
|  |  |  |  |  |
| 1,2 Kg  | 1,9 Kg  | 2 Kg  | 2,5 Kg   | 5,2 Kg   |
| <b>10680140017</b>  | <b>10680140026</b>  | <b>10680140035</b>  | <b>10680140053</b>   | <b>10680140106</b>   |

**Serbatoio 1 litro / Tank 1 litre**



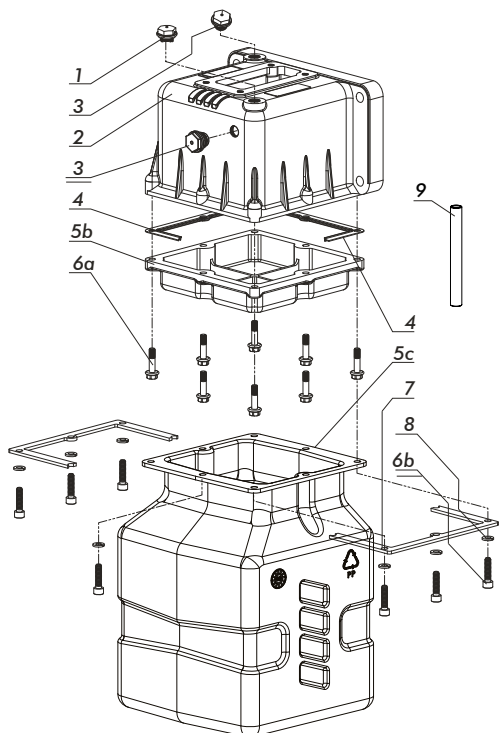
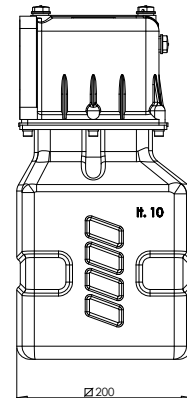
| N° | Codice / P. Number |                                  | Q. |
|----|--------------------|----------------------------------|----|
| 1  | 50900500131        | Tappo sfiato/Breather cap 1/4"   | 1  |
| 2  | 50900600121        | Tappo livello/Level cap 1/4"     | 1  |
| 3  | 50200098723        | Vite trilobata/Trefoil screw     | 10 |
| 4  | 50900000912        | Coperchio plastica/Plastic cover | 1  |
| 5  | 50600002158        | Guarnizione/Gasket               | 1  |
| 6  | 51400391053        | Serbatoio/Tank                   | 1  |
| 7  | 54100100011        | Tubo aspirazione/xxxx            | 1  |

**Serbatoi 2/3/4/5/7/10 litri / Tanks 2/3/4/5/7/10 litres**



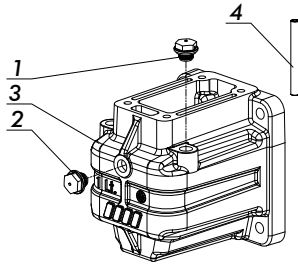
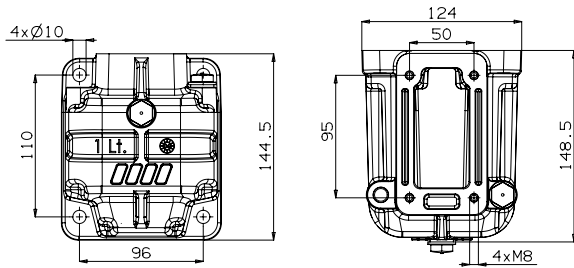
| lt | 2  | 3  | 4   | 5   | 7   | 10  |
|----|----|----|-----|-----|-----|-----|
| A  | 32 | 72 | 116 | 182 | 302 | 268 |

Lt 10



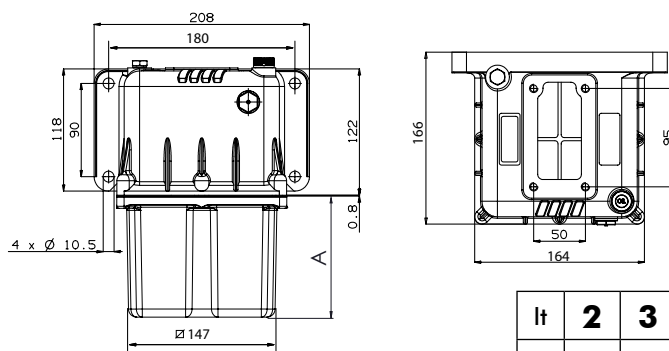
| N° | Serbatoio l / Tank |   |   |   |   |             | Codice<br>P. Number |                                    | Q. |
|----|--------------------|---|---|---|---|-------------|---------------------|------------------------------------|----|
|    | 2                  | 3 | 4 | 5 | 7 | 10          |                     |                                    |    |
| 1  | .                  | . | . | . | . | .           | 50900500131         | Tappo sfiato/Breather cap 1/4"     | 1  |
| 2  | .                  | . | . | . | . | .           | 51400390894         | Serbatoio/Tank                     | 1  |
| 3  | .                  | . | . | . | . | .           | 50900600121         | Tappo livello/Level cap 1/4"       | 2  |
| 4  | .                  | . | . | . | . | .           | 50600000463         | Guarnizione/Gasket                 | 1  |
|    | .                  | . | . | . | . | .           | 50600003666         |                                    |    |
| 5b | .                  | . | . | . | . | .           | 51400800020         | Coperchio serbatoio<br>Tank cover  | 1  |
|    | .                  | . | . | . | . | .           | 51400800039         |                                    |    |
|    | .                  | . | . | . | . | .           | 51400800048         |                                    |    |
|    | .                  | . | . | . | . | .           | 51400800057         |                                    |    |
| 5c | .                  | . | . | . | . | .           | 51400800075         | Rosetta elastica/ Washer           | 8  |
|    | .                  | . | . | . | . | .           | 51400910107         |                                    |    |
| 6a | .                  | . | . | . | . | .           | 50200292076         | Vite/Screw TE M6x25                | 8  |
| 6b | .                  | . | . | . | . | .           | 50200294789         | Vite/Screw TCE M6x25               | 8  |
| 7  | .                  | . | . | . | . | .           | 53800093312         | Staffa supporto/ Mounting brackets | 2  |
| 9  | .                  | . | . | . | . | .           | 50102490636         | Tubo aspirazione/xxxx              | 1  |
|    | .                  | . | . | . | . | .           | 54100100020         |                                    |    |
|    | .                  | . | . | . | . | .           | 54100400036         |                                    |    |
|    | .                  | . | . | . | . | .           | 54100400152         |                                    |    |
|    | .                  | . | . | . | . | .           | 54100400054         |                                    |    |
|    | .                  | . | . | . | . | .           | 54100400072         |                                    |    |
| .  | .                  | . | . | . | . | 54100400081 |                     |                                    |    |

**Serbatoio 1 litro / Tank 1 litre**



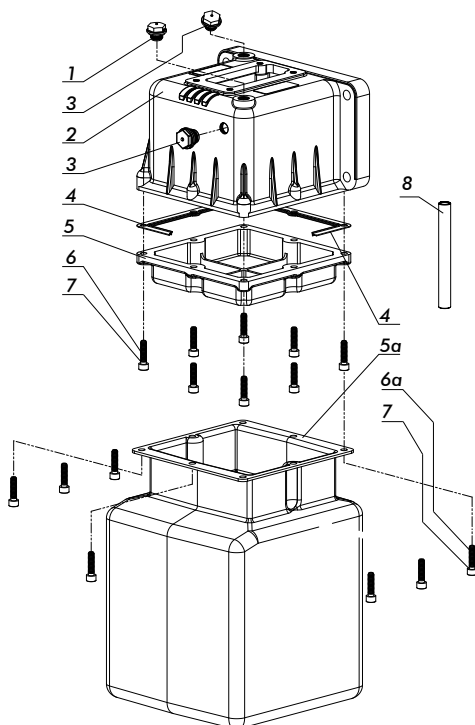
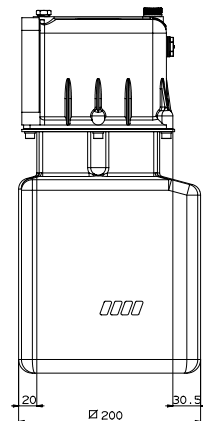
| N° | Codice / P. Number |                                  | Q. |
|----|--------------------|----------------------------------|----|
| 1  | 50900500131        | Tappo sfiato / Breather cap 1/4" | 1  |
| 2  | 50900600121        | Tappo livello / Level cap 1/4"   | 1  |
| 3  | 51400390983        | Serbatoio / Tank                 | 1  |
| 4  | 54100100011        | Tubo aspirazione/xxxx            | 1  |

**Serbatoi 2/3/4/5/7/10 litri / Tanks 2/3/4/5/7/10 litres**



| lit | 2  | 3  | 5   | 10  |
|-----|----|----|-----|-----|
| A   | 32 | 72 | 182 | 268 |

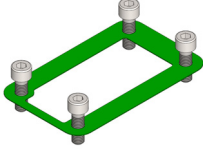
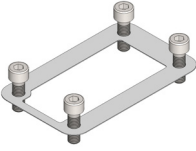
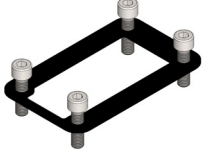
**Lt 10**

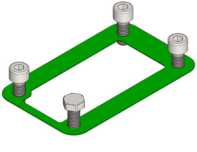


| N° | Serbatoio l / tank |   |   |             | Codice<br>P. Number |                                | Q. |
|----|--------------------|---|---|-------------|---------------------|--------------------------------|----|
|    | 2                  | 3 | 5 | 10          |                     |                                |    |
| 1  | .                  | . | . | .           | 50900500131         | Tappo sfiato/Breather cap 1/4" | 1  |
| 2  | .                  | . | . | .           | 51400390894         | Serbatoio/Tank                 | 1  |
| 3  | .                  | . | . | .           | 50900600121         | Tappo livello/Level cap 1/4"   | 2  |
| 4  | .                  | . | . | .           | 50700300431         | Guarnizione/Gasket             | 1  |
| 5  | .                  | . | . | .           | 51400590696         |                                | 1  |
|    | .                  | . | . | .           | 51400590785         | Coperchio serbatoio            | 1  |
|    | .                  | . | . | .           | 51400590874         | Tank cover                     | 1  |
| 5a | .                  | . | . | 51400590507 |                     | 1                              |    |
| 6  | .                  | . | . | .           | 50200294412         | Vite/Screw TCE M6x18           | 8  |
| 6a | .                  | . | . | .           | 50200294789         | Vite/Screw TCE M6x25           | 8  |
| 7  | .                  | . | . | .           | 50101890527         | Rosetta elastica/Washer        | 8  |
|    | .                  | . | . | .           | 54100100020         |                                |    |
|    | .                  | . | . | .           | 54100400036         |                                |    |
|    | .                  | . | . | .           | 54100400054         |                                |    |
| 8  | .                  | . | . | .           | 54100400081         | Tubo aspirazione/xxxx          | 1  |



**Kit fissaggio / Fixing kit**

|  |   | Serbatoio alluminio / plastica<br><i>Aluminium/plastic tanks</i>                  |  | Serbatoio acciaio<br><i>Steel tanks</i>   |
|--|---|---|--|---|
|  |   | PMI/PMS standard  | PMI/PMS bassa temperatura<br><i>low temperature</i>                                | PMI/PMS standard  |
|  |   |  |  |  |
| <b>kit</b>   | Prevede la fornitura del kit SEPARATO dal pompante e dal serbatoio.<br><i>To be ordered if you want to get the hand pump and oil tank LOOSE.</i>              | 10696000737   | 10696000693  | 10696001094   |
| <b>kit + montaggio</b><br><b>kit + mounting</b>  | Prevede la fornitura del kit MONTATO con il pompante ed il serbatoio.<br><i>To be ordered if you want to get the hand pump and oil tank MOUNTED together.</i> | 10696000808   | 10696000817  | 10696001101   |
| Trattamento alta resistenza alla corrosione (700 ore in nebbia salina)<br><i>High resistance treatment against corrosion (salt spray test = 700 hours)</i> |   |   |  |   |

|            |  | Serbatoio alluminio/plastica<br><i>Aluminium/plastic tanks</i>                      |
|------------|--|---|
|            |  | PMSE  |
|            |  |  |
| <b>kit</b> | Prevede la fornitura del kit SEPARATO dal pompante e dal serbatoio.<br><i>To be ordered if you want to get the hand pump and oil tank LOOSE.</i> | 10696000906   |

**Leva / Lever**

|   |
|---|
| <b>STANDARD</b>   |
|  |
| Asta con impugnatura L.600mm mm 35x15<br><i>Lever L. 600mm 35x15</i>              |
| 10600000078   |


|  |
|--|
| <b>Serie/Series OFF-SHORE</b>  |
|    |
| Asta con impugnatura L.600mm<br><i>LEVER L. 600mm</i><br>Trattamento alta resistenza alla corrosione.<br><i>High resistance treatment against corrosion.</i> |
| 10600090785  |

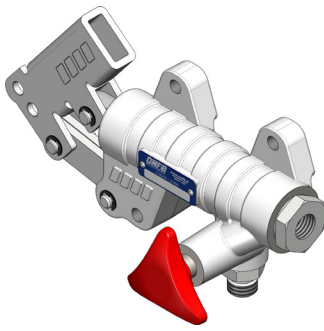
**Maggiorazione ritorno a molla / Spring return**

|   |
|---|
| <b>Serie/Series PMS</b>   |
|  |
| Maggiorazione ritorno a molla<br><i>Spring return</i>                               |
| 10600000247   |

|   |
|---|
| <b>Serie/Series PMS ALU</b>   |
|  |
| Maggiorazione ritorno a molla<br><i>Spring return</i>                                 |
| 10600000041   |

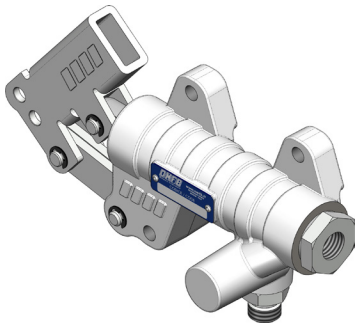
**Piastra gruppo pompa / Mounting plate**

|   |
|---|
| <b>Serie/Series PMS-PMI</b>   |
|  |
| Piastra gruppo pompa PMS-PMI<br><i>Mounting plate for tank PMS-PMI</i>              |
| 10600000032   |



Pompe a mano con azionamento a semplice effetto (la pompa eroga olio solo se si spinge la leva), con rubinetto di scarico per impianti a semplice effetto. Ha il corpo in ghisa con trattamento di zincatura bianca e lo stelo in acciaio cromato.

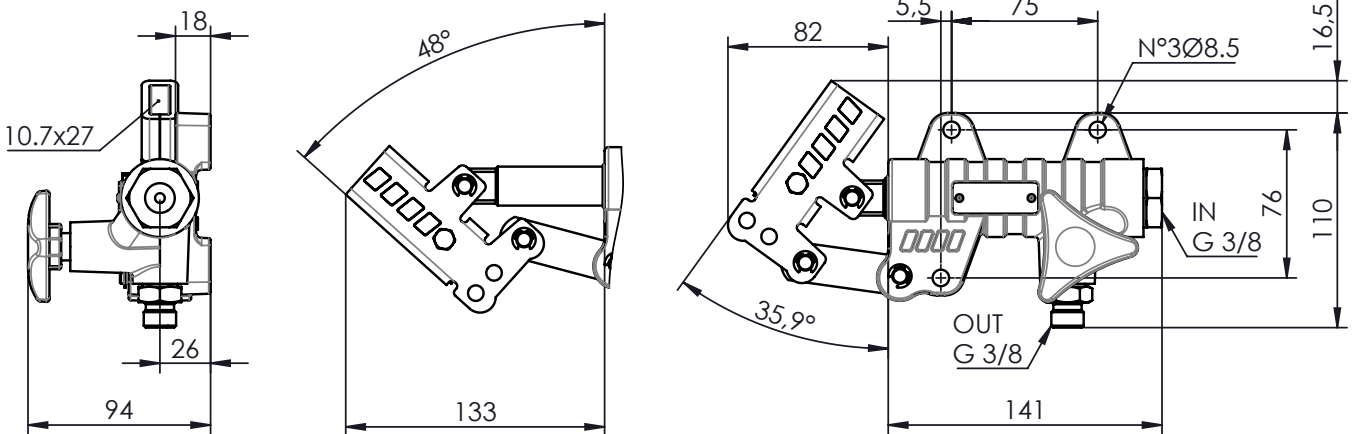
Hand pumps with simple effect activation (the pump delivers oil only when you push the lever), wheter with drainage tap for simple effect installations or without tap for emergency installations. The body is in cast-iron with white galvanization and the stem is in chromate steel.



**Codice di ordinazione (senza leva)**  
Order code (without lever)

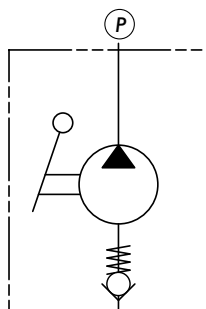
|   | <b>PMSE 16</b> |
|---|----------------|
| <b>con rubinetto</b><br>with valve      | 10603800163    |
| <b>senza rubinetto</b><br>without valve | 10603810161    |

**Ingombro / Dimensions**

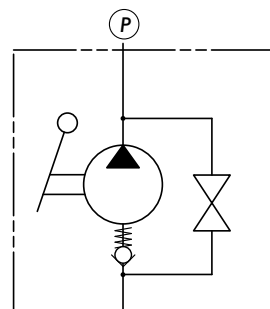


**Schema idraulico / Hydraulic layout**

senza rubinetto / without valve



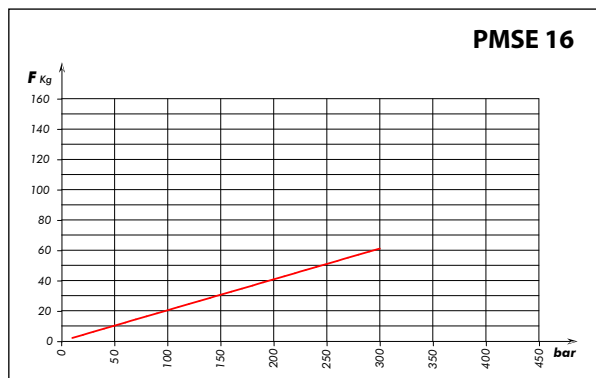
con rubinetto / with valve



**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure<br><br>bar | Cilindrata<br>Displacement<br><br>cm <sup>3</sup> | Peso<br>Weight<br><br>kg |
|-------------------------|---|---|--------------------------|
| <b>PMSE 16</b>          | 300   | 16  | 2,4                      |

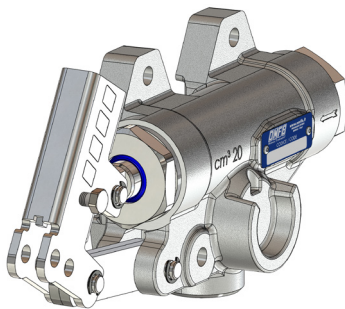
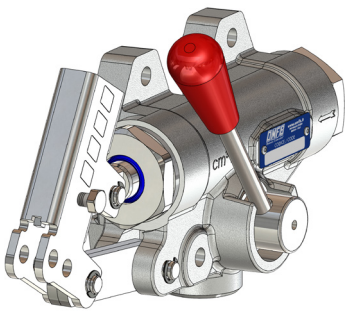
|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Leva / Lever**
**PMSE 16**

10600000176

**Kit guarnizioni / Seal kit**
**PMSE 16**

10690000113



Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva), con valvola di non ritorno in mandata e rubinetto di scarico per impianti a semplice effetto o senza rubinetto per impianti d'emergenza. Sono disponibili in tre diverse cilindratae per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento di zincatura bianca e lo stelo in acciaio nichelato.

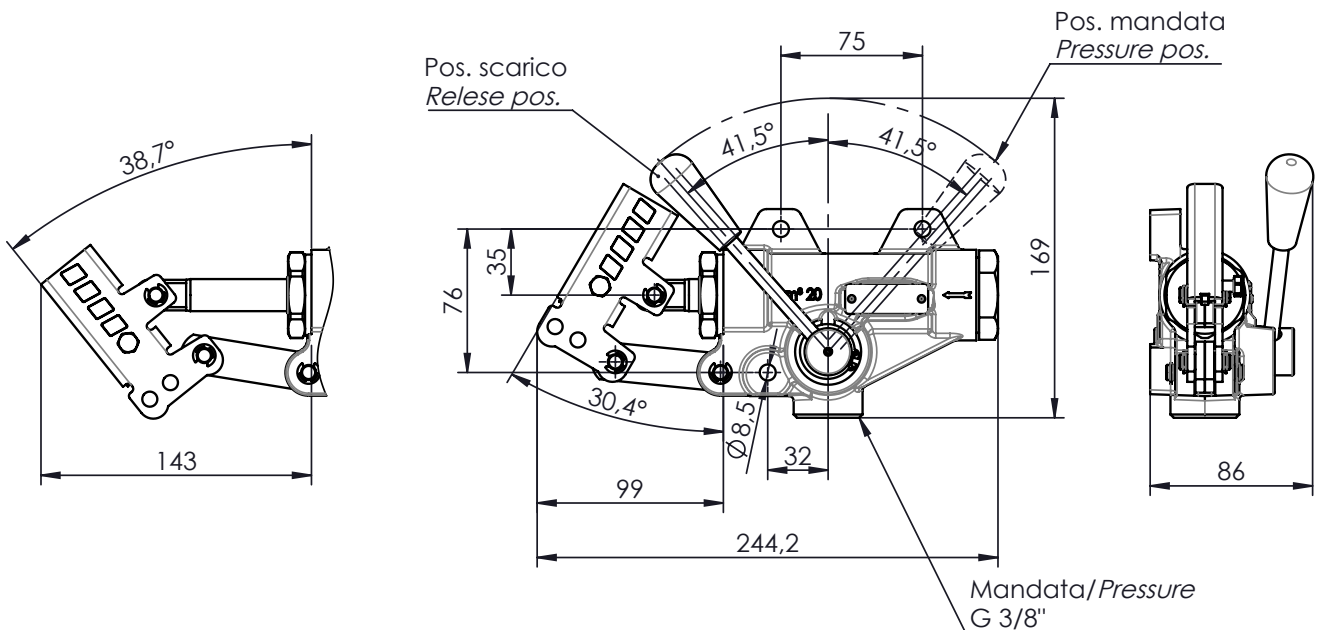
*Hand pumps with double effect activation (the pump delivers oil both pushing and pulling the lever), with check valve on pressure port and wheter with drainage tap for simple effect installations or without tap for emergency installations.*

*Available in three different capacities to allow several applications and to limit the effort on the lever in any situation. The body is in cast-iron with white galvanization and the stem is in nickeled steel.*

### Codice di ordinazione (senza leva) Order code (without lever)

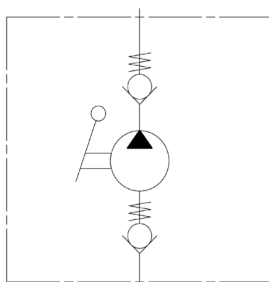
|  | <b>PM 20+VR</b> |
|--|-----------------|
| <b>con rubinetto</b><br><i>with valve</i>      | 10600130017     |
| <b>senza rubinetto</b><br><i>without valve</i> | 10600130044     |

### Ingombro / Dimensions

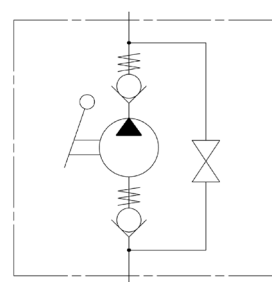


### Schema idraulico / Hydraulic layout

senza rubinetto / without valve



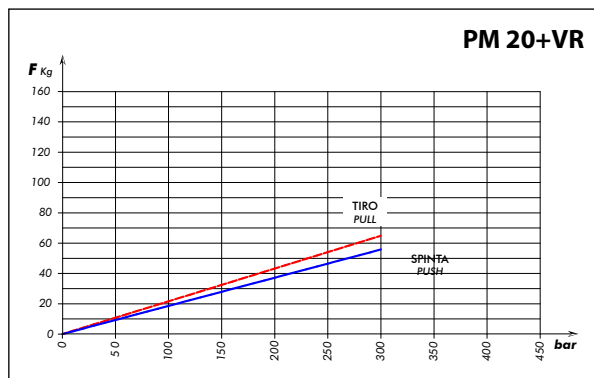
con rubinetto / with valve



**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br><br>kg |
|-------------------------|---|------------------------------------|--------------------------------|----------------------------------|--------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                          |
| <b>PM 20+VR</b>         | 300   | 20                                 | 10,8                           | 9,2                              | 3,4                      |

|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

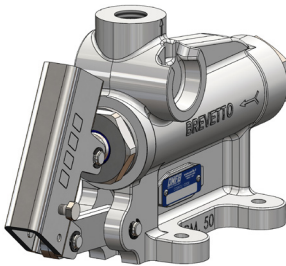
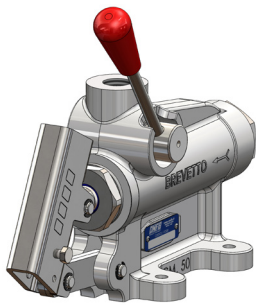
**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Leva / Lever**
**PM 20+VR**

10600000176

**Kit guarnizioni / Seal kit**
**PM 20+VR**

10690000024





Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva), con valvola di non ritorno in mandata e rubinetto di scarico per impianti a semplice effetto o senza rubinetto per impianti d'emergenza. Sono disponibili in tre diverse cilindratae per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento di zincatura bianca e lo stelo in acciaio nichelato.

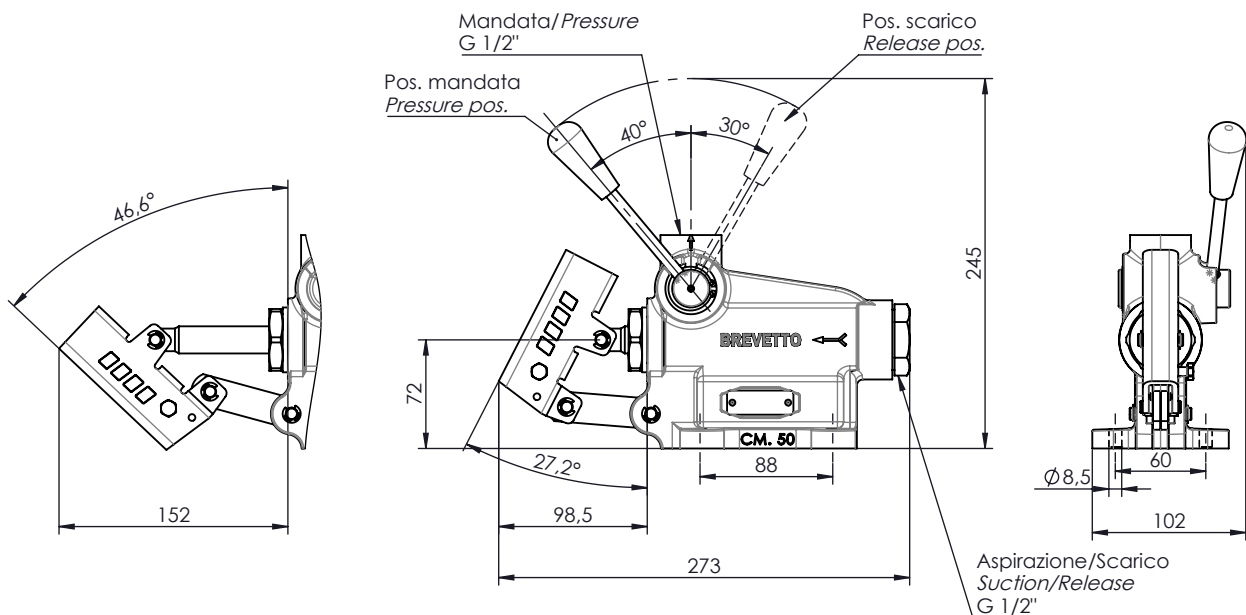
Hand pumps with double effect activation (the pump delivers oil both pushing and pulling the lever), with check valve on pressure port and wheter with drainage tap for simple effect installations or without tap for emergency installations.

Available in three different capacities to allow several applications and to limit the effort on the lever in any situation. The body is in cast-iron with white galvanization and the stem is in nickeled steel.

### Codice di ordinazione (senza leva) Order code (without lever)

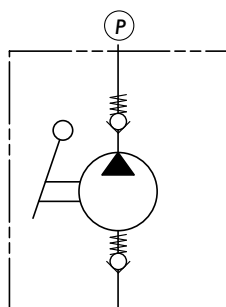
|                                  | PM 50+VR    |
|----------------------------------|-------------|
| con rubinetto<br>with valve      | 10600130026 |
| senza rubinetto<br>without valve | 10600130053 |

### Ingombro / Dimensions

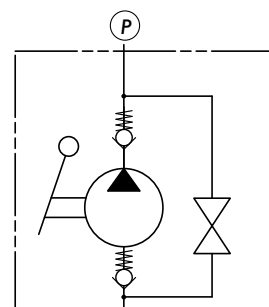


### Schema idraulico / Hydraulic layout

senza rubinetto / without valve



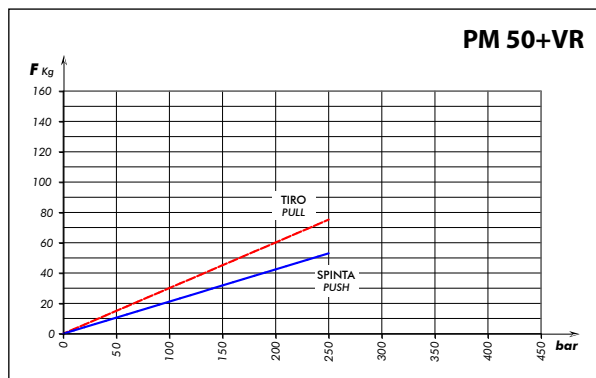
con rubinetto / with valve



**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione esercizio<br>Working pressure<br>bar | Pressione massima<br>Max. pressure<br>bar | Cilindrata<br>Displacement         |                                |                                  | Peso<br>Weight<br>kg |
|-------------------------|--|---|------------------------------------|--------------------------------|----------------------------------|----------------------|
|                         |  |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> | Spinta / Push<br>cm <sup>3</sup> |                      |
| <b>PM 50+VR</b>         | 220  | 250                                       | 50                                 | 29,8                           | 20,7                             | 5                    |

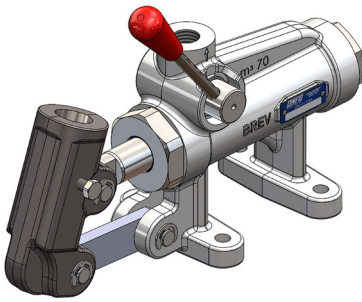
|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Leva / Lever**
**PM 50+VR**

10600000078

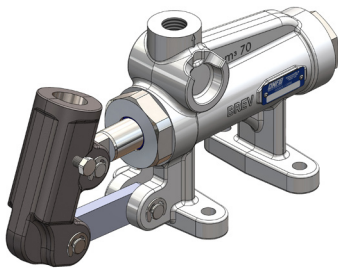
**Kit guarnizioni / Seal kit**
**PM 50+VR**

10690000122



Pompe a mano con azionamento a doppio effetto (la pompa eroga olio sia spingendo che tirando la leva), con rubinetto di scarico per impianti a semplice effetto o senza rubinetto per impianti d'emergenza. Sono disponibili in tre diverse cilindratae per consentire le più svariate applicazioni e per limitare lo sforzo sulla leva in ogni situazione. Hanno il corpo in ghisa con trattamento di zincatura bianca e lo stelo in acciaio nichelato.

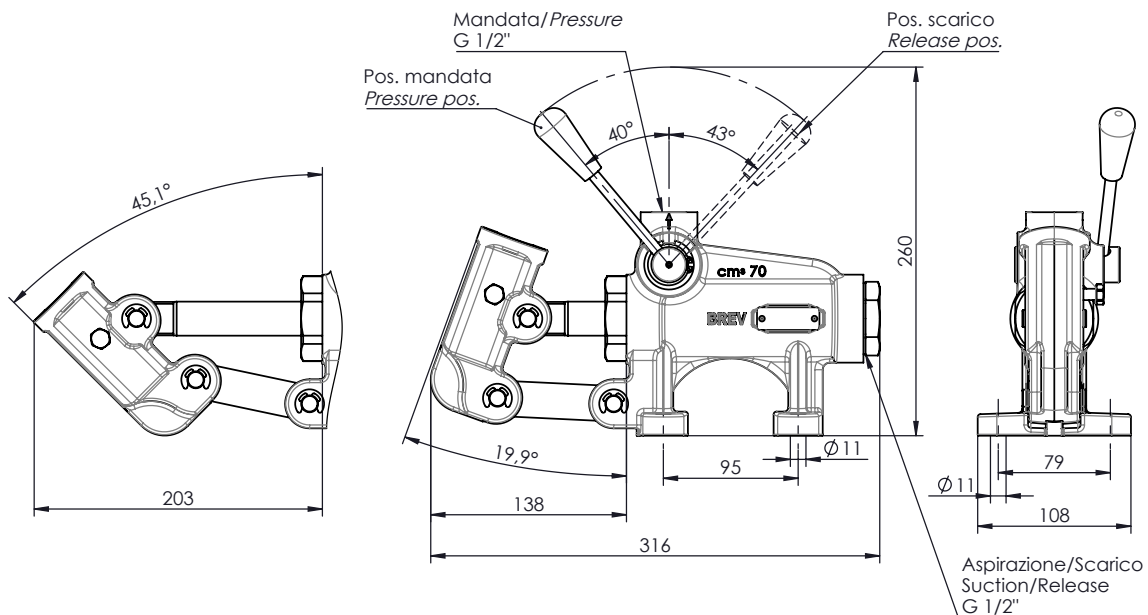
Hand pumps with double effect activation (the pump delivers oil both pushing and pulling the lever) wheter with drainage tap for simple effect installations or without tap for emergency installations. Available in three different capacities to allow several applications and to limit the effort on the lever in any situation. The body is in cast-iron with white galvanization and the stem is in nickeled steel.



### Codice di ordinazione (senza leva) Order code (without lever)

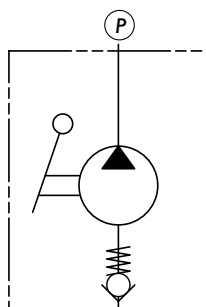
|                                  | PM 70       |
|----------------------------------|-------------|
| con rubinetto<br>with valve      | 10600100031 |
| senza rubinetto<br>without valve | 10600100068 |

### Ingombro / Dimensions

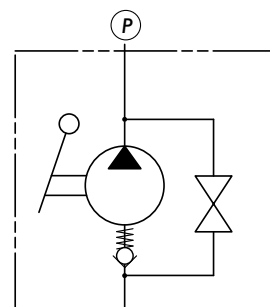


### Schema idraulico / Hydraulic layout

senza rubinetto / without valve



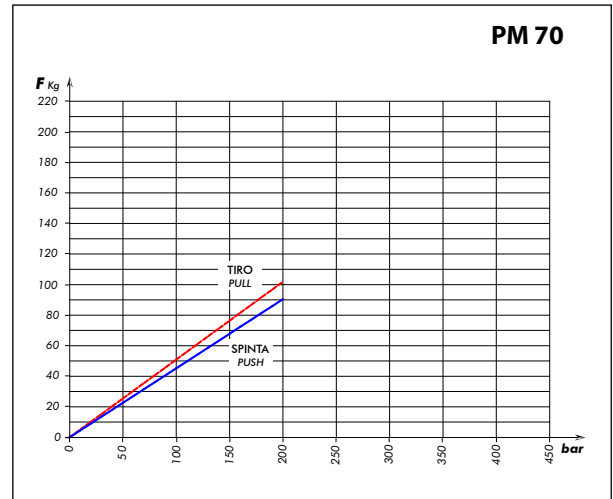
con rubinetto / with valve



**Dati tecnici / Technical data**

| Tipo pompa<br>Pump type | Pressione massima<br>Max. pressure setting<br><br>bar | Cilindrata<br>Displacement         |                                | Peso<br>Weight<br><br>kg |                                  |
|-------------------------|---|------------------------------------|--------------------------------|--------------------------|----------------------------------|
|                         |   | Completa / Full<br>cm <sup>3</sup> | Tiro / Pull<br>cm <sup>3</sup> |                          | Spinta / Push<br>cm <sup>3</sup> |
| <b>PM 70</b>            | 200   | 70                                 | 37,1                           | 32,9                     | 7,2                              |

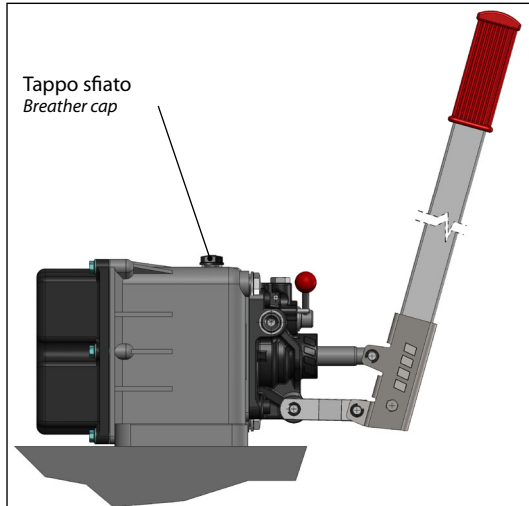
|   |  |             |        |       |      |
|---|--|-------------|--------|-------|------|
| Fluido idraulico<br>Fluid   | Minerale o sintetico compatibile con guarnizioni:<br>Mineral or synthetic compatible with the following seals:<br>NBR, FKM, FPM, Nylon |             |        |       |      |
| Viscosità cinematica consigliata<br>Kinematic viscosity suggested | T media ambiente (°C)<br>Average ambient temp. (°C)  | < -10       | -10÷10 | 10÷35 | > 35 |
|   | VG (cSt = mm <sup>2</sup> /s)  | 22          | 32     | 46    | 68   |
| Temperatura di utilizzo<br>Working temperature                    |  | -15° +110°C |        |       |      |

**Sforzo in fase di pompaggio con leva standard**  
 Load while pumping with standard lever

**Leva / Lever**
**PM 70**

10600000014

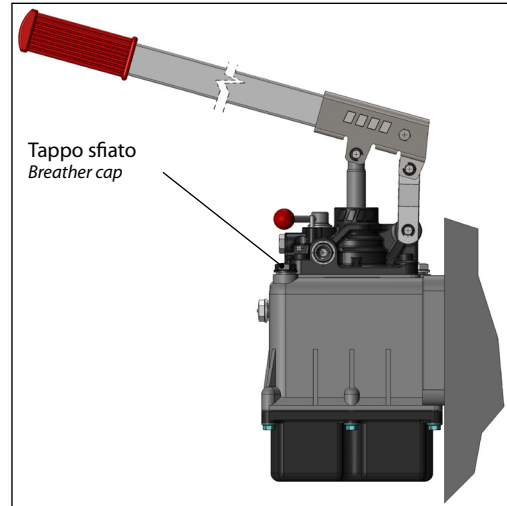
**Kit guarnizioni / Seal kit**
**PM 70**

10690000042



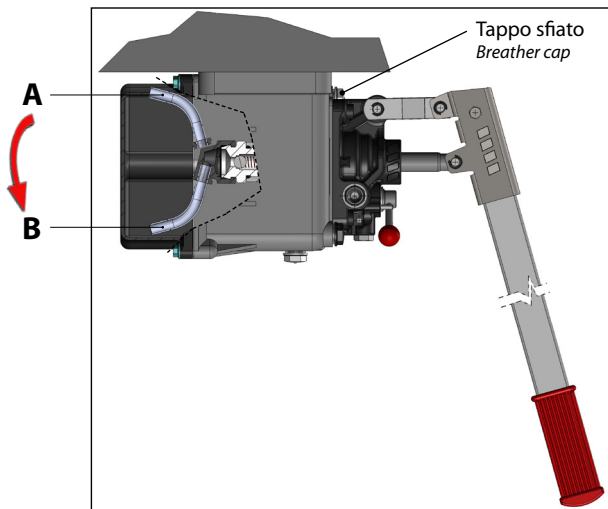
Applicazione 1. Il tappo sfiato deve essere nella posizione indicata in figura.

Application 1. The breather cap has to be in the position indicated in a picture.



Applicazione 2. Il tappo sfiato deve essere nella posizione indicata in figura.

Application 2. The breather cap has to be in the position indicated in a picture.



Applicazione 3. Per questo tipo di applicazione ruotare il tubo interno di aspirazione dalla posizione **A** alla posizione **B**. Il tappo sfiato deve essere nella posizione indicata in figura.

Application 3. In this application rotate the internal suction pipe from position **A** to **B**. The breather cap has to be placed as per position indicated in the picture.

Nelle applicazioni 1 e 3, soprattutto in presenza di serbatoi di grande capacità, è consigliabile interporre al tappo di sfiato un raccordo a L maschio/femmina da G 1/4" per evitare piccole fuoriuscite di olio.

For applications 1 and 3, especially for what concerns large reservoirs, it is advisable to use an "L" shape male/female G1/4" adaptor for the breather cap to avoid little oil leakage.



cod. 10090000231  
optional - da ordinare separatamente  
to be order separately

Алматы (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
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Киров (8332)68-02-04  
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Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

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Смоленск (4812)29-41-54  
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Тольятти (8482)63-91-07  
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