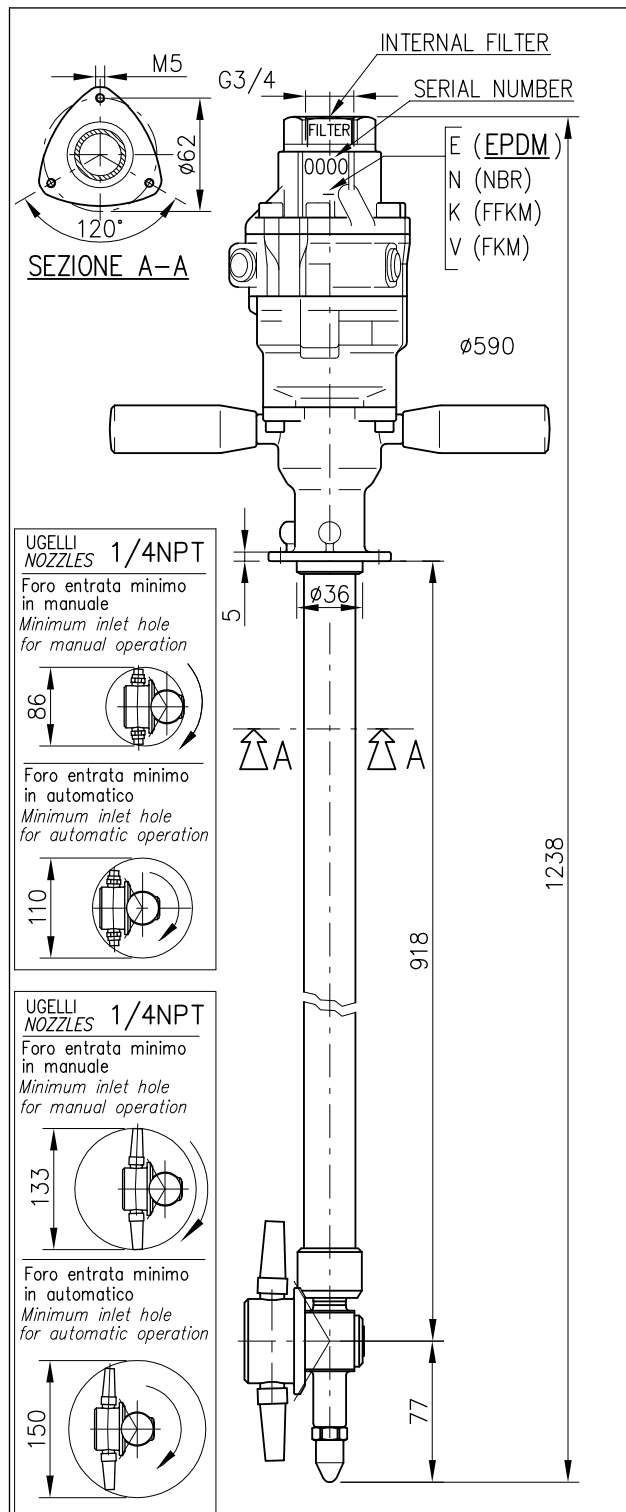


# M185

## MANUALE D'ISTRUZIONE GENERAL INSTRUCTION BOOK



### TESTINA AUTOMOVENTE PER PULIZIA CISTERNE

- Testina volumetrica, la velocità di rotazione è proporzionale alla portata in ingresso.
- Lavaggio superfici interne di contenitori e serbatoi.
- Portata ridotta, alta pressione, elevata forza di impatto.
- Copertura orbitale completa degli interni.
- Minimo ingombro radiale che ne permette l'introduzione attraverso passaggi ridotti.

- Velocità di rotazione indipendente dalla temperatura dell'acqua.
- Filtro in entrata.
- Costruzione in acciaio inox.
- Idonea per impiego settore alimentare.

### ATTENZIONE !

- La Testina STANDARD è fornita di guarnizioni (DINAMICHE) in PTFE + O-Ring EPDM.
- Lubrificare esclusivamente con GRASSO SILICONICO codice: 14.6552.00
- Per l'utilizzo di liquidi detergenti, additivi chimici ecc. non compatibili con le guarnizioni standard è indispensabile contattare il nostro UFFICIO TECNICO.
- A richiesta le guarnizioni (DINAMICHE) O-RING sono disponibili anche in diverso materiale, NBR-FFKM(kalrez)-FKM(viton).
- Le guarnizioni (STATICHE) sono in FKM (viton).

### SELF ROTATING CLEANING HEAD

- This is a self-propelled tank cleaning head: when the flow rate increases, the head rotates faster.
- Cleaning of interior surfaces of tanks and drums.
- Reduced flow, high pressure, high cleaning impact.
- Complete orbital coverage of all interior surfaces.
- Small spray turret that fits through reduced tank opening.
- Rotating speed independent from water temperature.
- Inlet filter.
- Stainless steel construction.
- Suitable for utilization in food industry.

### ATTENTION !

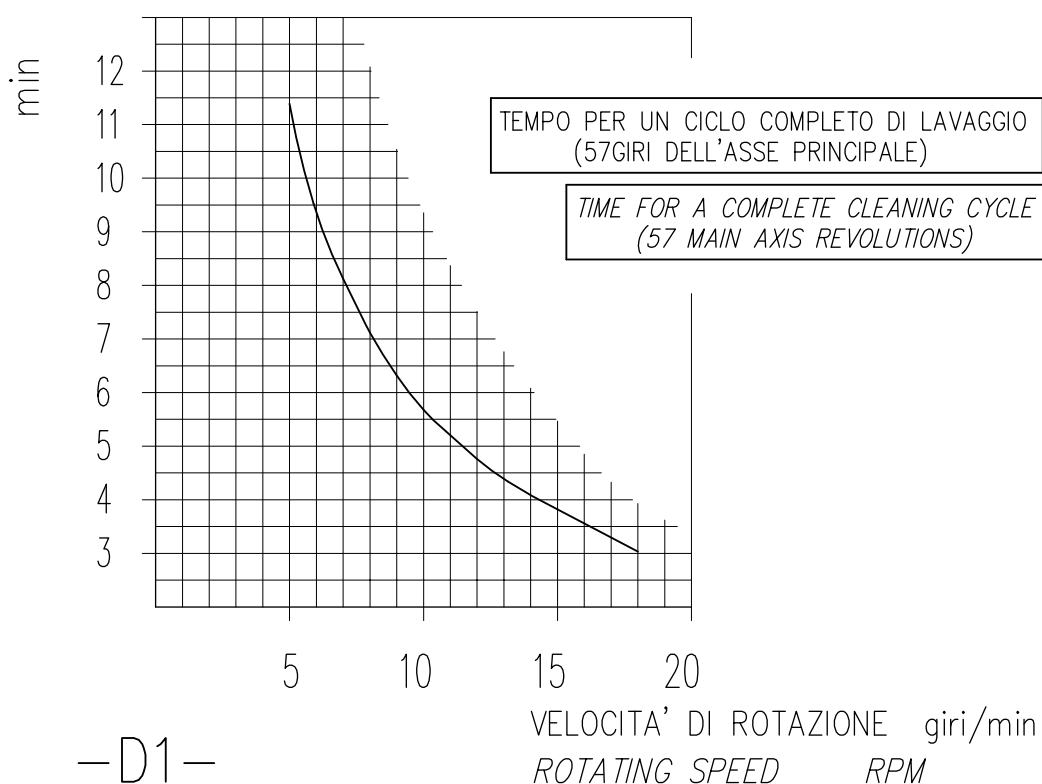
- The STANDARD Tank cleaning head is supplied with seals (DYNAMIC) in PTFE + O-Ring EPDM.
- Lubricate ONLY with SILICONE GREASE P/N: 14.6552.00
- For use with Detergent liquid, Chemical additives etc that are not compatible with the standard seals, it is essential to contact our TECHNICAL OFFICE for further information.
- On request, the O-RING seals (DYNAMIC) are available in different materials such as NBR-FFKM(kalrez)-FKM(viton).
- The STATIC seals are in FKM (viton).

ATTENZIONE: NON UTILIZZARE  
L'APPARECCHIO PRIMA DI AVER LETTO  
QUESTO MANUALE DI ISTRUZIONE

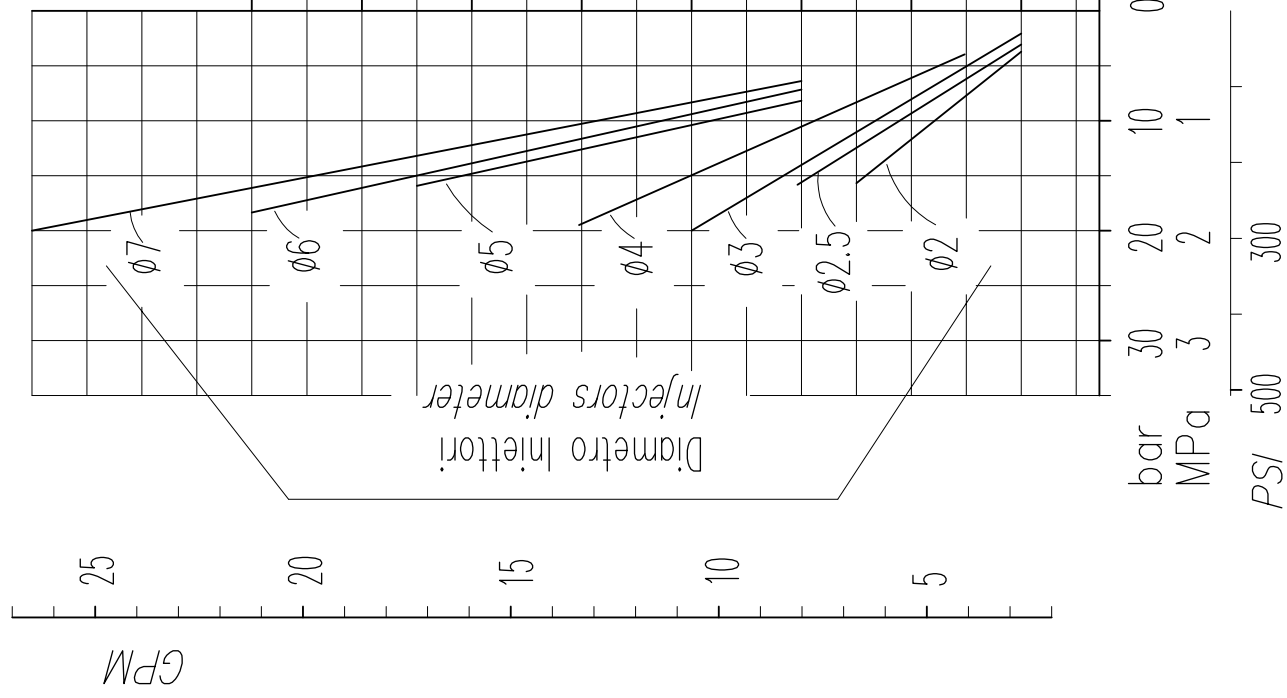
CAUTION: DO NOT USE THE  
CLEANING HEAD BEFORE HAVING READ  
THE INSTRUCTION BOOK

## CARATTERISTICHE TECNICHE TECHNICAL SPECIFICATIONS

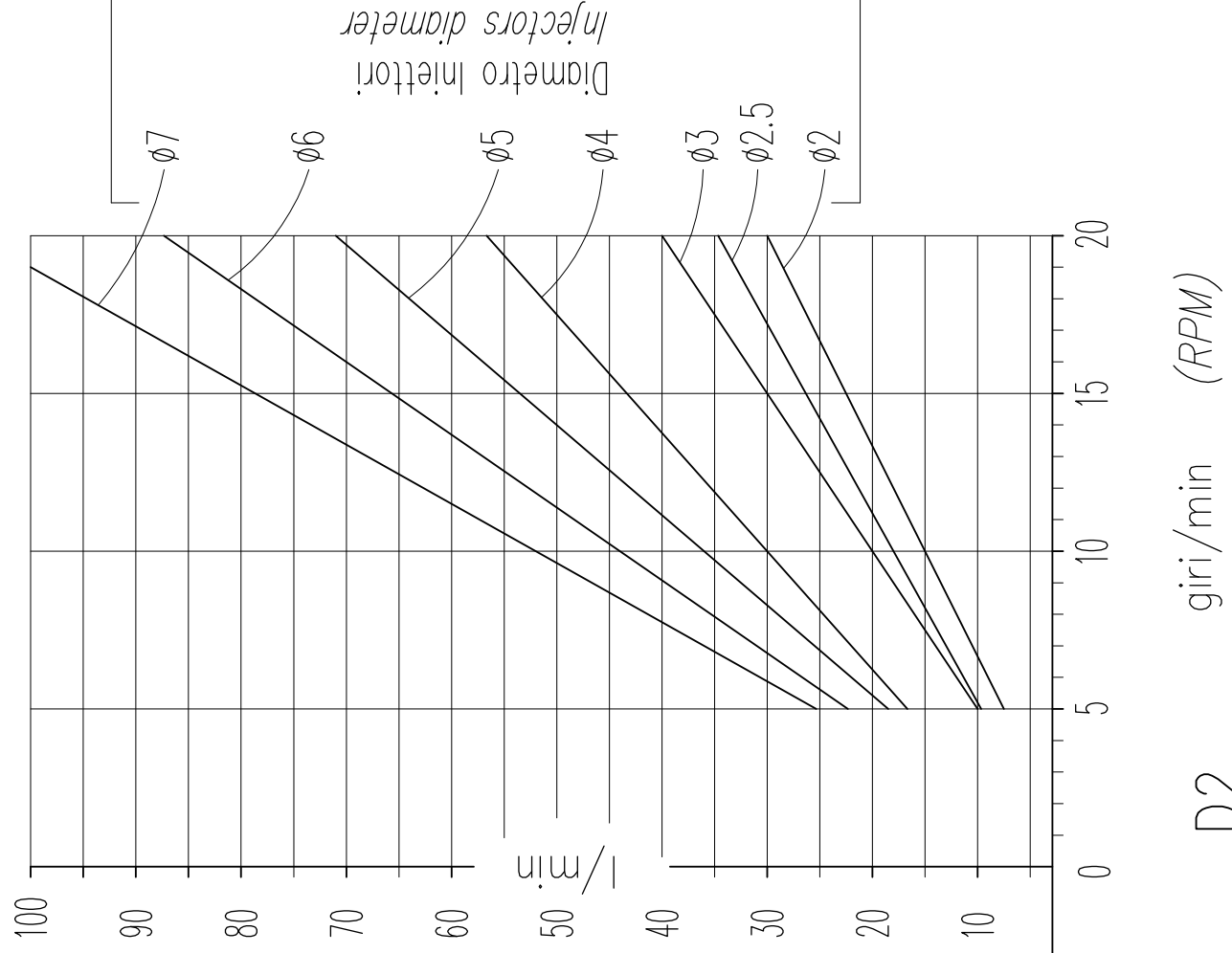
|                                                                          |                                      |
|--------------------------------------------------------------------------|--------------------------------------|
| – PRESSIONE NOMINALE<br><i>RATED PRESSURE</i>                            | 30÷140 bar – 3÷14 MPa (435÷2000 psi) |
| – PRESSIONE CONSENTITA<br><i>PERMISSIBLE PRESSURE</i>                    | 160 bar – 16 MPa (2300 psi)          |
| – PORTATA<br><i>FLOW RATE</i>                                            | 20 – 80 l/min (5.3–21 USGp.m.)       |
| – TEMPERATURA MASSIMA ACQUA<br><i>MAX WORKING TEMPERATURE</i>            | 0–90°C (32–195°F)                    |
| – PESO<br><i>WEIGHT</i>                                                  | 7.2 kg                               |
| – FREQUENZA ROTAZIONE ASSE PRINCIPALE<br><i>MAIN AXIS ROTATING SPEED</i> | 10–16 giri/min (RPM)                 |
| – ATTACCO ALIMENTAZIONE ACQUA<br><i>INLET CONNECTION SIZE</i>            | G 3/4"                               |
| – ATTACCO UGELLI (2 o 4)<br><i>NOZZLES CONNECTION (2 or 4)</i>           | 1/4 NPT                              |



CADUTA DI PRESSIONE IN FUNZIONE DELLA PORTATA  
LOSS OF PRESSURE IN RELATION TO FLOW



VARIAZIONE DEI GIRI IN FUNZIONE DELLA PORTATA  
RPM VARIATION IN RELATION TO FLOW



MI85





**P.A. – S.p.A. – EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO**

VIA MILANO, 13 – CASELLA POSTALE 115 – 42048 RUBIERA (REGGIO EMILIA) – ITALY  
Tel. +39 0522 623611 – Fax. +39 0522 629600 – R.E.A. RE 156319 – R.I. RE11535 – Mecc. RE 013446  
C.F. e P. IVA 01035950359 – Cap. Soc. i.v. € 750.000,00 – Codice Identificativo C.E.E. IT 01035950359  
ART. 2497 – BIS C.C. DIREZIONE E COORDINAMENTO BENETTI srl R.I. TRIB. DI RE 01480690351  
Web: <http://www.pa-etl.it> – E-mail: [info@pa-etl.it](mailto:info@pa-etl.it)



## Dichiarazione di conformità – Declaration of conformity

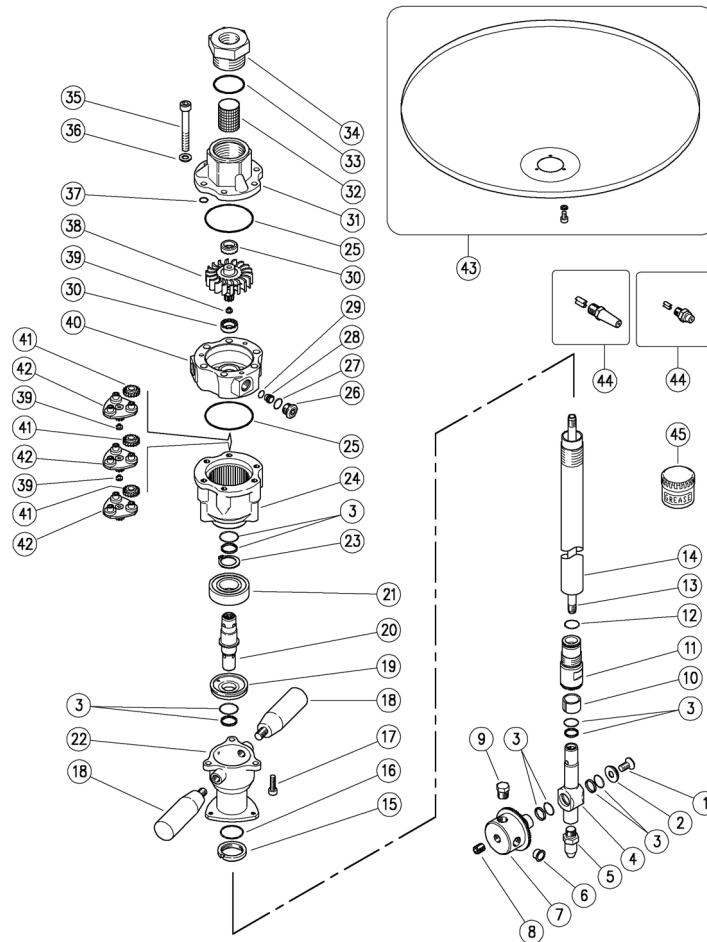
|                                           |           |                                                                                     |                 |
|-------------------------------------------|-----------|-------------------------------------------------------------------------------------|-----------------|
| <b>Attrezzatura – Equipment:</b>          |           | <b>ACCESSORIO A PRESSIONE<br/>PRESSURE EQUIPMENT</b>                                |                 |
| <b>Modello – Type:</b>                    |           | <b>MI63 e MI85</b>                                                                  |                 |
| <b>Fluido – Fluid:</b>                    |           | <b>ACQUA CALDA E DETERGENTI<br/>HOT WATER AND DETERGENTS</b>                        |                 |
| <b>Gruppo fluidi:<br/>Group of Fluid:</b> | <b>II</b> | <b>Temperatura min. e max. ammissibile<br/>Permissible Temperature (min/max °C)</b> | <b>0 ÷ 90°C</b> |

## Procedura di valutazione della conformità

Conformity Assessment Procedure Followed

|                                                                                                                            |  |                                                          |  |
|----------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------|--|
| <b>Allegato:<br/>Annex:</b>                                                                                                |  | <b>Modulo:<br/>Module:</b>                               |  |
| <b>Organismo notificato - Notified Body:</b>                                                                               |  | -----                                                    |  |
| <b>Attestato CE del tipo - EC Type - Examination Certificate:</b>                                                          |  | -----                                                    |  |
| <b>Marcatura CE del fabbricante - Manufacturer's CE Marking:</b>                                                           |  | -----                                                    |  |
| <b>Organismo Notificato per il Sistema Qualità:<br/>Notified Body for Assessment of Quality System:</b>                    |  | -----                                                    |  |
| <b>Organismo di certificazione per il Sistema di Qualità:<br/>Notified Body for Certification of Quality System:</b>       |  | <b>DNV-GL</b>                                            |  |
| <b>Norme europee applicate:<br/>Harmonized Standards applied :</b>                                                         |  | <b>CEI EN 60335-2-79:2015<br/>UNI EN 1829-1:2010</b>     |  |
| <b>Codici di calcolo:<br/>Design Calculations Applied:</b>                                                                 |  |                                                          |  |
| <b>Libretto uso e manutenzione<br/>presente nel sito web<br/>Operation and Maintenance Manual<br/>available on Website</b> |  | <b>Il Fabbricante PA SpA<br/>The Manufacturer PA SpA</b> |  |

**25.4750.20 MI85 test.mot.idrocin., iniet.2mm**



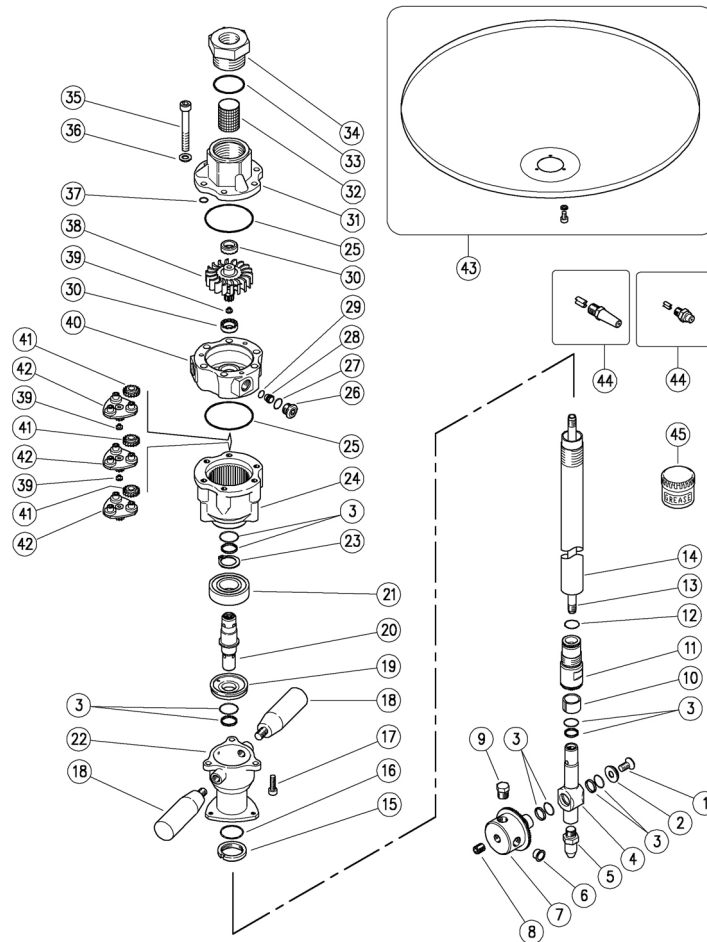
| Pos. | Codice     | Descrizione                            | Q.tà | K1 | K2 | K3 | K4 |    | Pos. | Codice     | Descrizione                              | Q.tà | K1 | K2 | K3 | K4 |    |
|------|------------|----------------------------------------|------|----|----|----|----|----|------|------------|------------------------------------------|------|----|----|----|----|----|
| 1    | 16.1954.12 | Vite DIN7991 M8x12 mm inox             | 1    |    |    |    |    | 10 | 28   | 80.0221.51 | Iniettore 2mm inox (1)                   | 3    |    |    |    |    | 3  |
| 2    | 80.0094.51 | Rosetta svas. 8,5x28x4,5mm inox        | 1    |    |    |    |    | 1  | 28   | 80.0222.51 | Iniettore 3mm inox                       | 3    |    |    |    |    | 3  |
| 3    | 10.2030.18 | Guarn. stelo 18x23x2 mm +OR Epdm       | 5    | •  |    |    |    | 5  | 28   | 80.0223.51 | Iniettore 4mm inox                       | 3    |    |    |    |    | 3  |
| 4    | 80.0093.51 | Respingente M12 inox                   | 1    |    |    |    |    | 1  | 28   | 80.0224.51 | Iniettore 5mm inox                       | 3    |    |    |    |    | 3  |
| 5    | 80.0004.51 | Punta del respingente M12 inox         | 1    |    |    |    |    | 3  | 28   | 80.0225.51 | Iniettore 6mm inox                       | 3    |    |    |    |    | 3  |
| 6    | 15.3720.14 | Tappo G1/4" plast.                     | 2    |    |    |    |    | 4  | 28   | 80.0226.51 | Iniettore 7mm inox                       | 3    |    |    |    |    | 3  |
| 7    | 80.0091.51 | Pignone portaug. z.57 4x1/4 Npt F inox | 1    |    |    |    |    | 1  | 28   | 80.0228.51 | Iniettore corto 7mm inox                 | 3    |    |    |    |    | 3  |
| 8    | 16.2242.12 | Grano DIN913 M12x12 mm inox            | 1    |    |    |    |    | 10 | 29   | 10.3003.00 | An.OR 1x8 mm                             | 3    | •  |    |    |    | 10 |
| 9    | 15.3721.14 | Tappo inox 1/4M Npt s/testa            | 2    |    |    |    |    | 10 | 30   | 80.0212.84 | Boccola plastica                         | 2    |    | •  |    |    | 3  |
| 10   | 80.0024.85 | Boccola a. 18x22x14,8mm PTFE           | 1    |    | •  |    |    | 5  | 31   | 80.0201.52 | Collettore inox                          | 1    |    |    |    |    | 1  |
| 11   | 80.0099.23 | Pignone z:34 + boccola - M85           | 1    |    |    |    |    | 1  | 32   | 28.0014.53 | Rete 38mesh-400µm inox                   | 1    |    |    |    |    | 10 |
| 12   | 10.3184.10 | An.OR 2,62x18,72 mm Vi 70              | 1    | •  |    |    |    | 10 | 33   | 10.3208.36 | An.OR 2,62x36,17 mm Vi 70                | 1    | •  |    |    |    | 5  |
| 13   | 80.0003.56 | Tubo M10x1 MM 894mm inox               | 1    |    |    |    |    | 1  | 34   | 80.0217.51 | Racc. M40x2 M -G3/4F inox                | 1    |    |    |    |    | 1  |
| 14   | 80.0052.56 | Tubo M28x1 M 895mm inox                | 1    |    |    |    |    | 1  | 35   | 16.1955.60 | Vite DIN912 M8x60 mm inox                | 6    |    |    |    |    | 10 |
| 15   | 80.0012.51 | Ghiera M28x1 inox                      | 1    |    |    |    |    | 1  | 36   | 14.3573.00 | Rosetta sicur. 8,4x2 mm inox             | 6    |    |    |    |    | 10 |
| 16   | 10.3205.10 | An.OR 2,62x26,64 mm Vi 70              | 1    | •  |    |    |    | 10 | 37   | 10.3109.93 | An.OR 2,4x8,3 mm Vi 70                   | 3    | •  |    |    |    | 10 |
| 17   | 16.1896.20 | Vite DIN912 M6x20 mm inox              | 3    |    |    |    |    | 10 | 38   | 80.0203.52 | Turbina inox                             | 1    |    |    |    |    | 1  |
| 18   | 13.0600.00 | Manopola M10x15 mm                     | 2    |    |    |    |    | 2  | 39   | 80.0213.84 | Perno rasamento plast.                   | 3    |    | •  |    |    | 3  |
| 19   | 80.0233.51 | An. distanziale 18x46,8x10,8mm inox    | 1    |    |    |    |    | 1  | 40   | 80.0202.52 | Statore inox                             | 1    |    |    |    |    | 1  |
| 20   | 80.0232.51 | Albero dentato inox                    | 1    |    |    |    |    | 1  | 41   | 80.0204.38 | Satellite z.19 bronzo                    | 9    |    | •  |    |    | 3  |
| 21   | 11.4420.47 | Cuscinetto 20x47x14 mm - 2RS inox      | 1    |    | •  |    |    | 2  | 42   | 80.0205.00 | Portasatelliti+3 perni inox              | 3    |    |    |    |    | 1  |
| 22   | 80.0231.52 | Corpo manicotto inox                   | 1    |    |    |    |    | 1  | 44   | 16.1380.45 | Ug. inox 1/4M Npt+ventol. 00.045 **      | 2-4  |    |    |    |    | 10 |
| 23   | 10.1020.05 | An. elast. E 20 inox                   | 1    | •  |    |    |    | 10 | 44   | 80.0418.23 | Ug. prol. inox 07 1/4M Npt+ventol. **    | 2-4  |    |    |    |    | 2  |
| 24   | 80.0207.52 | Corona z.50 inox                       | 1    |    |    |    |    | 1  | 44   | 80.0420.23 | Ug. prol. inox 09 1/4M Npt+ventol. **    | 2-4  |    |    |    |    | 2  |
| 25   | 10.3080.58 | An.OR 1,78x56,87 mm Vi 70              | 2    | •  |    |    |    | 10 | 44   | 80.0430.23 | Ug. prol. inox 20 1/4M Npt +ventol. **   | 2-4  |    |    |    |    | 2  |
| 26   | 80.0219.51 | Tappo EI M14x1 inox                    | 3    |    |    |    |    | 3  | 45   | 14.6552.00 | Grass.silicone-teflon-30g.>tutti imp. ** | 1    |    |    |    |    | 2  |
| 27   | 10.3060.10 | An.OR 1,78x12,42 mm Vi 70              | 3    | •  |    |    |    | 10 |      |            |                                          |      |    |    |    |    |    |

| Kit | Codice     | Descrizione                 |  |
|-----|------------|-----------------------------|-------------------------------------------------------------------------------------|
| K1  | 25.4758.24 | Kit ric.guarn. MI85 8x1pz.  | 1                                                                                   |
| K2  | 25.4759.24 | Kit ric.cuscin. MI85 6x1pz. | 1                                                                                   |

Aggiornato al 05/07/2017

# 25.4750.00 MI85 Tank cl.,hydr.-driv. w/o inject.

# 25.4750.20 MI85 Tank cl.,hydr.-driv. 2mm inject.



| Pos. | P/N        | Description                             | Q.ty | K1 | K2 | K3 | K4 |    | Pos. | P/N        | Description                               | Q.ty | K1 | K2 | K3 | K4 |    |
|------|------------|-----------------------------------------|------|----|----|----|----|----|------|------------|-------------------------------------------|------|----|----|----|----|----|
| 1    | 16.1954.12 | Screw, DIN7991 M8x12 mm Sst.            | 1    |    |    |    |    | 10 | 28   | 80.0221.51 | Injector, 2mm Sst. (1)                    | 3    |    |    |    |    | 3  |
| 2    | 80.0094.51 | C/sunk washer, 8,5x28x4,5mm Sst.        | 1    |    |    |    |    | 1  | 28   | 80.0222.51 | Injector, 3mm Sst.                        | 3    |    |    |    |    | 3  |
| 3    | 10.2030.18 | Stem seal, 18x23x2 mm +O-ring Epdm      | 5    | *  |    |    |    | 5  | 28   | 80.0223.51 | Injector, 4mm Sst.                        | 3    |    |    |    |    | 3  |
| 4    | 80.0093.51 | Buffer, M12 Sst.                        | 1    |    |    |    |    | 1  | 28   | 80.0224.51 | Injector, 5mm Sst.                        | 3    |    |    |    |    | 3  |
| 5    | 80.0004.51 | Buffer tip, M12 Sst.                    | 1    |    |    |    |    | 3  | 28   | 80.0225.51 | Injector, 6mm Sst.                        | 3    |    |    |    |    | 3  |
| 6    | 15.3720.14 | Plug, 1/4" Bsp plast.                   | 2    |    |    |    |    | 4  | 28   | 80.0226.51 | Injector, 7mm Sst.                        | 3    |    |    |    |    | 3  |
| 7    | 80.0091.51 | Nzl hold. pinion, z.57 4x1/4 Npt F Sst. | 1    |    |    |    |    | 1  | 28   | 80.0228.51 | Short injector, 7mm Sst.                  | 3    |    |    |    |    | 3  |
| 8    | 16.2242.12 | Set screw, DIN913 M12x12 mm Sst.        | 1    |    |    |    |    | 10 | 29   | 10.3003.00 | O-ring, 1x8 mm                            | 3    | *  |    |    |    | 10 |
| 9    | 15.3721.14 | Grub screw, Sst. 1/4M Npt               | 2    |    |    |    |    | 10 | 30   | 80.0212.84 | Bushing, plast.                           | 2    |    | *  |    |    | 3  |
| 10   | 80.0024.85 | Bushing, opn. 18x22x14,8mm PTFE         | 1    |    | *  |    |    | 5  | 31   | 80.0201.52 | Manifold, Sst.                            | 1    |    |    |    |    | 1  |
| 11   | 80.0099.23 | Pinion Z.34 + bushing - M85             | 1    |    |    |    |    | 1  | 32   | 28.0014.53 | Net, 38mesh-400µm Sst.                    | 1    |    |    |    |    | 10 |
| 12   | 10.3184.10 | O-ring, 2,62x18,72 mm Vi 70             | 1    | *  |    |    |    | 10 | 33   | 10.3208.36 | O-ring, 2,62x36,17 mm Vi 70               | 1    | *  |    |    |    | 5  |
| 13   | 80.0003.56 | Tube, M10x1 MM 894mm Sst.               | 1    |    |    |    |    | 1  | 34   | 80.0217.51 | Coupl., M40x2 M -3/4F Bsp Sst.            | 1    |    |    |    |    | 1  |
| 14   | 80.0052.56 | Tube, M28x1 M 895mm Sst.                | 1    |    |    |    |    | 1  | 35   | 16.1955.60 | Screw, DIN912 M8x60 mm Sst.               | 6    |    |    |    |    | 10 |
| 15   | 80.0012.51 | Ring nut, M28x1 Sst.                    | 1    |    |    |    |    | 1  | 36   | 14.3573.00 | Safet. washer, 8,4x2 mm Sst.              | 6    |    |    |    |    | 10 |
| 16   | 10.3205.10 | O-ring, 2,62x26,64 mm Vi 70             | 1    | *  |    |    |    | 10 | 37   | 10.3109.93 | O-ring, 2,4x8,3 mm Vi 70                  | 3    | *  |    |    |    | 10 |
| 17   | 16.1896.20 | Screw, DIN912 M6x20 mm Sst.             | 3    |    |    |    |    | 10 | 38   | 80.0203.52 | Turbine, Sst.                             | 1    |    |    |    |    | 1  |
| 18   | 13.0600.00 | Knob M10x15 mm                          | 2    |    |    |    |    | 2  | 39   | 80.0213.84 | Shim pin, plast.                          | 3    | *  |    |    |    | 3  |
| 19   | 80.0233.51 | Spacer ring, 18x46,8x10,8mm Sst.        | 1    |    |    |    |    | 1  | 40   | 80.0202.52 | Stator, Sst.                              | 1    |    |    |    |    | 1  |
| 20   | 80.0232.51 | Geared shaft, Sst.                      | 1    |    |    |    |    | 1  | 41   | 80.0204.38 | Planetary gear, z.19 brz                  | 9    | *  |    |    |    | 3  |
| 21   | 11.4420.47 | Ball-bearing, 20x47x14 mm - 2RS Sst.    | 1    | *  |    |    |    | 2  | 42   | 80.0205.00 | Planetary gear holder+3 pins, Sst.        | 3    |    |    |    |    | 1  |
| 22   | 80.0231.52 | Housing sleeve, Sst.                    | 1    |    |    |    |    | 1  | 44   | 16.1380.45 | Nzl, sst,1/4M Npt+guid.vane 00.045 **     | 2-4  |    |    |    |    | 10 |
| 23   | 10.1020.05 | Snap ring, E 20 Sst.                    | 1    | *  |    |    |    | 10 | 44   | 80.0418.23 | Xnd. nzl., sst. 07 1/4M Npt+guid.vane **  | 2-4  |    |    |    |    | 2  |
| 24   | 80.0207.52 | Ring gear, z.50 Sst.                    | 1    |    |    |    |    | 1  | 44   | 80.0420.23 | Xnd. nzl., sst. 09 1/4M Npt+guid.vane **  | 2-4  |    |    |    |    | 2  |
| 25   | 10.3080.58 | O-ring, 1,78x56,87 mm Vi 70             | 2    | *  |    |    |    | 10 | 44   | 80.0430.23 | Xnd. nzl., sst. 20 1/4M Npt +guid.vane ** | 2-4  |    |    |    |    | 2  |
| 26   | 80.0219.51 | Plug, int.hex., M14x1 Sst.              | 3    |    |    |    |    | 3  | 45   | 14.6552.00 | Teflon silicon grease x30g.>All **        | 1    |    |    |    |    | 2  |
| 27   | 10.3060.10 | O-ring, 1,78x12,42 mm Vi 70             | 3    | *  |    |    |    | 10 |      |            |                                           |      |    |    |    |    |    |

\*\* On request

| Kit | P/N        | Description                          |   |
|-----|------------|--------------------------------------|---|
| K1  | 25.4758.24 | Seals Spares Kit - MI85 8x1pcs.      | 1 |
| K2  | 25.4759.24 | Ball-bear. Spares Kit - MI85 6x1pcs. | 1 |

(1) 25.4750.20





P.A. S.p.A.

Via Milano, 13  
42048 Rubiera, Reggio Emilia - Italy

Tel +39.0522.623611  
Fax +39.0522.629600

info@pa-etl.it

[www.pa-etl.it](http://www.pa-etl.it)



COMPANY WITH QUALITY MANAGEMENT  
SYSTEM CERTIFIED BY DNV  
= ISO 9001 =