

# DOUBLE-ACTING AIR-OPERATED PISTON PUMPS



AIR-OPERATED  
PISTON PUMPS



## **CSF INOX SPA**

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The CSF **AIR-OPERATED PISTON PUMPS** are available in various executions, both with regard to constructional features, materials and the various applications for which they are to be used. They have been designed to meet the widest variety of requirements of pumping products with extremely high viscosities to transfer, feed, convey, spray and for whichever equipment requiring an adjustable delivery rate.

Thanks to the compressed air motor they are also suitable in environments with potentially explosive atmospheres and in compliance with Atex directives. Heads vary from 0 to 150 bar and deliveries from 1 to 80 l/min. They are made up of a compressed air motor, which in its alternated movement provides the pumping shaft with the power necessary to move the product from the in-take to the outlet. Sealing parts and pumping elements are available in a wide range of materials and shapes all designed and tested for the various applications.



#### **FOOD INDUSTRY:**

Creams, puddings, sweet stuffing, ice-creams, eggs, egg flip, honey, yoghurt, mustard, tomato sauce, dairy cream, melted cheese, jams, ragout, vegetable soup, "polenta", mayonnaise, melted chocolate, oils.

#### **DRINKS INDUSTRY:**

Syrups, juices, wines, spirits, glucose, concentrates, essences, flavours.

#### **PHARMACEUTICAL AND COSMETIC INDUSTRIES:**

Extracts, essences, solutions, soaps, shampoo, bubble bath, tooth paste, shaving creams, beauty creams.

#### **CHEMICAL, TEXTILE, PRINTING INDUSTRIES:**

Acids, bases, solution or dispersed salts, solvents, liquefied gases, oils paints, enamels, filler, plasters, resins, inks, adhesives, glues.





| PERFORMANCES  |                |                                |                                               |
|---------------|----------------|--------------------------------|-----------------------------------------------|
| PUMPS         | Pressure ratio | Recomm. max. cycles per minute | Max. flow rate l/min for viscosity of 1000 cP |
| PA 20 A- 45   | 25 : 1         | 150                            | 1                                             |
| * PA 30 A- 45 | 5 : 1          | 150                            | 2                                             |
| * PA 50 A- 63 | 3,4 : 1        | 120                            | 7,6                                           |
| * PA 50 A- 80 | 5,3 : 1        | 90                             | 10                                            |
| * PA 50 A-100 | 8,4 : 1        | 60                             | 7,5                                           |
| PA 50 A-130   | 14,6 : 1       | 50                             | 10,6                                          |
| PA 50 A-150   | 20 : 1         | 50                             | 6,2                                           |
| * PA 65 A- 80 | 1,6 : 1        | 80                             | 20                                            |
| * PA 65 A-100 | 2,5 : 1        | 60                             | 17                                            |
| * PA 65 A-130 | 4 : 1          | 50                             | 24                                            |
| PA 65 A-150   | 6 : 1          | 50                             | 14                                            |
| * PA 80 A-100 | 2 : 1          | 60                             | 24                                            |
| * PA 80 A-130 | 3,3 : 1        | 50                             | 33                                            |
| * PA 80 A-150 | 4,5 : 1        | 50                             | 20                                            |
| PA 80 A-210   | 9 : 1          | 50                             | 32                                            |
| * PA 100A-100 | 1 : 1          | 60                             | 37                                            |
| * PA 100A-130 | 1,8 : 1        | 50                             | 52                                            |
| * PA 100A-155 | 2,5 : 1        | 50                             | 52                                            |
| * PA 100A-210 | 5 : 1          | 50                             | 50                                            |
| * PA 140A-130 | 1,6 : 1        | 50                             | 100                                           |
| * PA 140A-155 | 2,2 : 1        | 50                             | 100                                           |
| * PA 140A-210 | 4 : 1          | 50                             | 95                                            |

\* Available with Atex 2G and 3G certification

### MANUFACTURE

Manufactured in AISI 304 / 316 stainless steel, mirror finish internally and externally. Rod and piston seal in rubber for foodstuff, Teflon or special materials.

Outlet port with female threaded fitting DIN 11851.

Pump components secured together by quick-release clamps.

Note: Available on request with different connections conforming to CLAMP - SMS - IDF - BS / RJT - DS standards.

### CHARACTERISTICS

Double acting piston pump with pistons of various shapes depending on the liquids or pastes to be pumped. The pumps are fitted to the various pneumatic motors by clamps to facilitate their disassembly when cleaning.

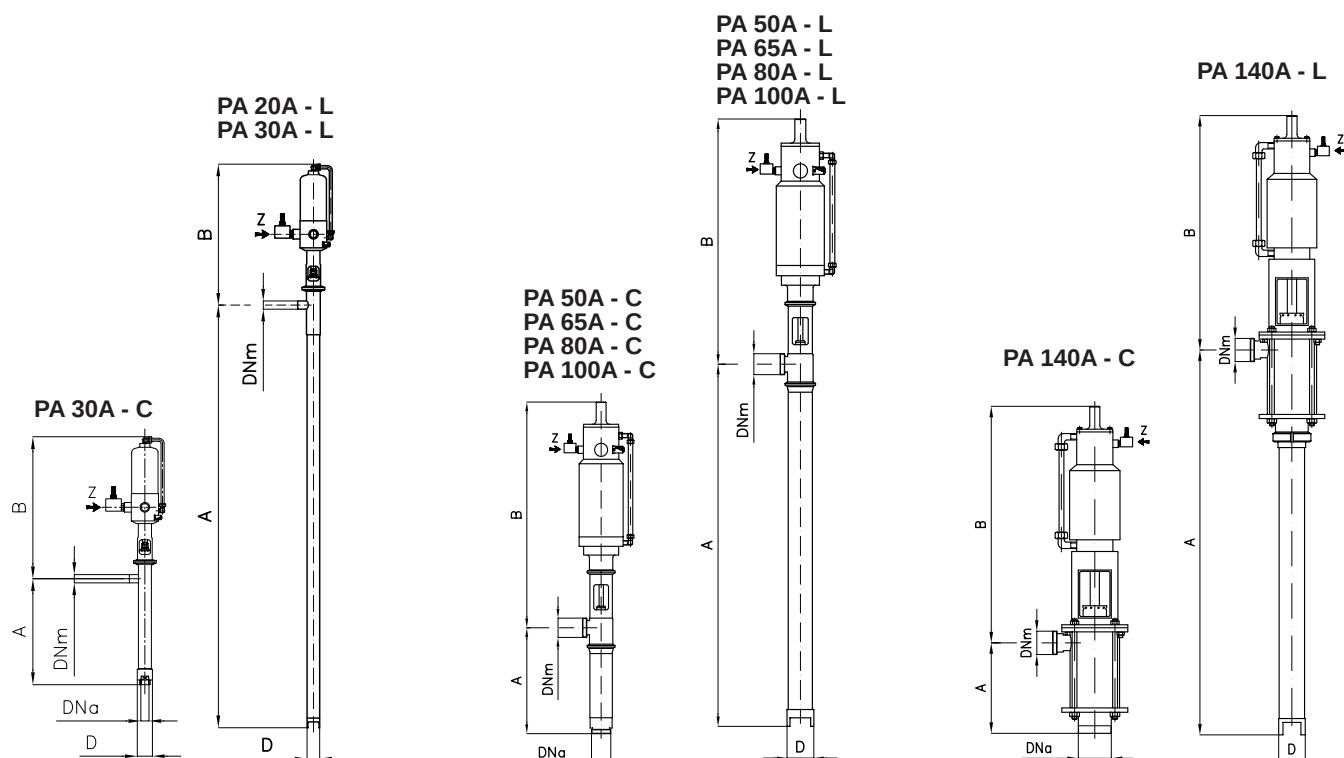
Each pump is mainly made up of the following:

- In-take port with relative ball or mushroom valve
- Cylinder obtained from weld-free tubes
- Collar (rod seal holder and discharge port) generally obtained by casting
- Rod with valve carrying pumping piston

The pumps are normally light and very handy. The heavier pumps can be fitted on special trolleys (Art. 54), lifting vertically or with clamp (Art. 50-51-55-403) to secure the pump to the edge of the tank, to the container to be emptied or to the wall. The pumps are quickly and easily disassembled for their inspection and internal cleaning on a periodic basis. Each part of the pump can be reached and inspected. They can be used in environments with potentially explosive atmospheres as they are operated pneumatically. They can also be used in sterile environments as the air outlet can be conveyed outside the room. They operation is adjustable likewise for most pneumatic pumps.

## DIMENSIONS

| PUMPS        | Z              | A                                              |       | B   | Outlet port     | Inlet port |       |                 | Max.<br>consumption<br>of air in l/min<br>at feeding<br>pressure | Weight kg |       |
|--------------|----------------|------------------------------------------------|-------|-----|-----------------|------------|-------|-----------------|------------------------------------------------------------------|-----------|-------|
|              | Ø<br>Air inlet | Height<br>between<br>inlet and<br>outlet ports |       |     | DNm             | Long       | Short |                 |                                                                  | Long      | Short |
|              |                | Long                                           | Short |     |                 | D          | D     | DNa             |                                                                  |           |       |
| PA 20 A- 45  | 1/8" Gas       | 494                                            | -     | 292 | 1/4" Gas F      | Ø 27       | -     | -               | 17                                                               | 3,5       | -     |
| PA 30 A- 45  | 1/8" Gas       | 1097                                           | 472   | 304 | 3/8" Gas F      | Ø 34       | Ø 39  | 1/2" Gas F      | 17                                                               | 4         | 3,5   |
| PA 50 A- 63  | 1/4" Gas       | 1194                                           | 302   | 441 | DN32F/DIN 11851 | Ø 51       | -     | DN32F/DIN 11851 | 42                                                               | 12        | 10,5  |
| PA 50 A- 80  | 1/4" Gas       | 1194                                           | 302   | 515 | DN32F/DIN 11851 | Ø 51       | -     | DN32F/DIN 11851 | 90                                                               | 15        | 12,5  |
| PA 50 A-100  | 1/2" Gas       | 1194                                           | 302   | 674 | DN32F/DIN 11851 | Ø 51       | -     | DN32F/DIN 11851 | 104                                                              | 19        | 16,5  |
| PA 50 A-130  | 1/2" Gas       | 1194                                           | 302   | 783 | DN32F/DIN 11851 | Ø 51       | -     | DN32F/DIN 11851 | 250                                                              | 23        | 20,5  |
| PA 50 A-150  | 1/2" Gas       | 1194                                           | 302   | 642 | DN32F/DIN 11851 | Ø 51       | -     | DN32F/DIN 11851 | 200                                                              | 22        | 19,5  |
| PA 65 A- 80  | 1/4" Gas       | 1133                                           | 360   | 502 | DN40F/DIN 11851 | Ø 84       | -     | DN40F/DIN 11851 | 80                                                               | 26        | 21    |
| PA 65 A-100  | 1/2" Gas       | 1133                                           | 360   | 644 | DN40F/DIN 11851 | Ø 84       | -     | DN40F/DIN 11851 | 104                                                              | 27        | 22    |
| PA 65 A-130  | 1/2" Gas       | 1133                                           | 400   | 767 | DN40F/DIN 11851 | Ø 84       | -     | DN40F/DIN 11851 | 250                                                              | 31        | 26    |
| PA 65 A-150  | 1/2" Gas       | 1133                                           | 360   | 654 | DN40F/DIN 11851 | Ø 84       | -     | DN40F/DIN 11851 | 200                                                              | 30        | 25    |
| PA 80 A-100  | 1/2" Gas       | 1130                                           | 397   | 701 | DN50F/DIN 11851 | Ø 89       | -     | DN50F/DIN 11851 | 104                                                              | 32        | 26    |
| PA 80 A-130  | 1/2" Gas       | 1130                                           | 397   | 771 | DN50F/DIN 11851 | Ø 89       | -     | DN50F/DIN 11851 | 250                                                              | 35        | 29    |
| PA 80 A-150  | 1/2" Gas       | 1130                                           | 397   | 711 | DN50F/DIN 11851 | Ø 89       | -     | DN50F/DIN 11851 | 200                                                              | 34        | 28    |
| PA 80 A-210  | 3/4" Gas       | 1130                                           | 397   | 781 | DN50F/DIN 11851 | Ø 89       | -     | DN50F/DIN 11851 | 620                                                              | 40        | 34    |
| PA 100 A-100 | 1/2" Gas       | 898                                            | 458   | 693 | DN50F/DIN 11851 | Ø 120      | -     | DN65F/DIN 11851 | 104                                                              | 38        | 30    |
| PA 100 A-130 | 1/2" Gas       | 898                                            | 468   | 763 | DN50F/DIN 11851 | Ø 120      | -     | DN65F/DIN 11851 | 250                                                              | 42        | 34    |
| PA 100 A-155 | 1/2" Gas       | 898                                            | 468   | 763 | DN50F/DIN 11851 | Ø 120      | -     | DN65F/DIN 11851 | 200                                                              | 41        | 33    |
| PA 100 A-210 | 3/4" Gas       | 898                                            | 468   | 773 | DN50F/DIN 11851 | Ø 120      | -     | DN65F/DIN 11851 | 620                                                              | 47        | 39    |
| PA 140 A-130 | 1/2" Gas       | 1293                                           | 293   | 790 | DN50F/DIN 11851 | Ø 110      | -     | DN80F/DIN 11851 | 250                                                              | -         | 48    |
| PA 140 A-155 | 1/2" Gas       | 1293                                           | 293   | 790 | DN50F/DIN 11851 | Ø 110      | -     | DN80F/DIN 11851 | 440                                                              | -         | 50    |
| PA 140 A-210 | 3/4" Gas       | 1293                                           | 293   | 804 | DN50F/DIN 11851 | Ø 110      | -     | DN80F/DIN 11851 | 620                                                              | -         | 53    |





### PERFORMANCES

| PUMPS          | Pressure ratio | Recomm. max. cycles per minute | Max. flow rate l/min for viscosity of 1000 cP |
|----------------|----------------|--------------------------------|-----------------------------------------------|
| * PA 40 I - 63 | 5,5 : 1        | 120                            | 4,8                                           |
| * PA 40 I - 80 | 8,8 : 1        | 90                             | 6,4                                           |
| * PA 40 I -100 | 14 : 1         | 60                             | 4,7                                           |
| PA 40 I -130   | 24,4 : 1       | 50                             | 6,7                                           |
| PA 40 I -150   | 33,2 : 1       | 50                             | 4                                             |
| * PA 50 I - 63 | 2,5 : 1        | 120                            | 9                                             |
| * PA 50 I - 80 | 4 : 1          | 90                             | 12                                            |
| * PA 50 I -100 | 6 : 1          | 60                             | 8,8                                           |
| PA 50 I -130   | 11 : 1         | 50                             | 12,5                                          |
| PA 50 I -150   | 15 : 1         | 50                             | 7,4                                           |
| * PA 65 I - 80 | 1,6 : 1        | 80                             | 20                                            |
| * PA 65 I -100 | 2,5 : 1        | 60                             | 17                                            |
| * PA 65 I -130 | 4 : 1          | 50                             | 24                                            |
| PA 65 I -150   | 6 : 1          | 50                             | 14                                            |
| * PA 80 I -100 | 2 : 1          | 60                             | 24                                            |
| * PA 80 I -130 | 3,3 : 1        | 50                             | 33                                            |
| * PA 80 I -150 | 4,5 : 1        | 50                             | 20                                            |
| PA 80 I -210   | 9 : 1          | 50                             | 32                                            |

\* Available with Atex 2G and 3G certification

### MANUFACTURE

In AISI 316 stainless steel.

Piston ring and rod seal in pure Teflon or special materials, pump components screwed together, outlet ports with cylindrical GAS threading.

### CHARACTERISTICS

Double acting piston pump with pistons of various shapes depending on the liquids or pastes to be pumped. They are screwed to the pneumatic motor.

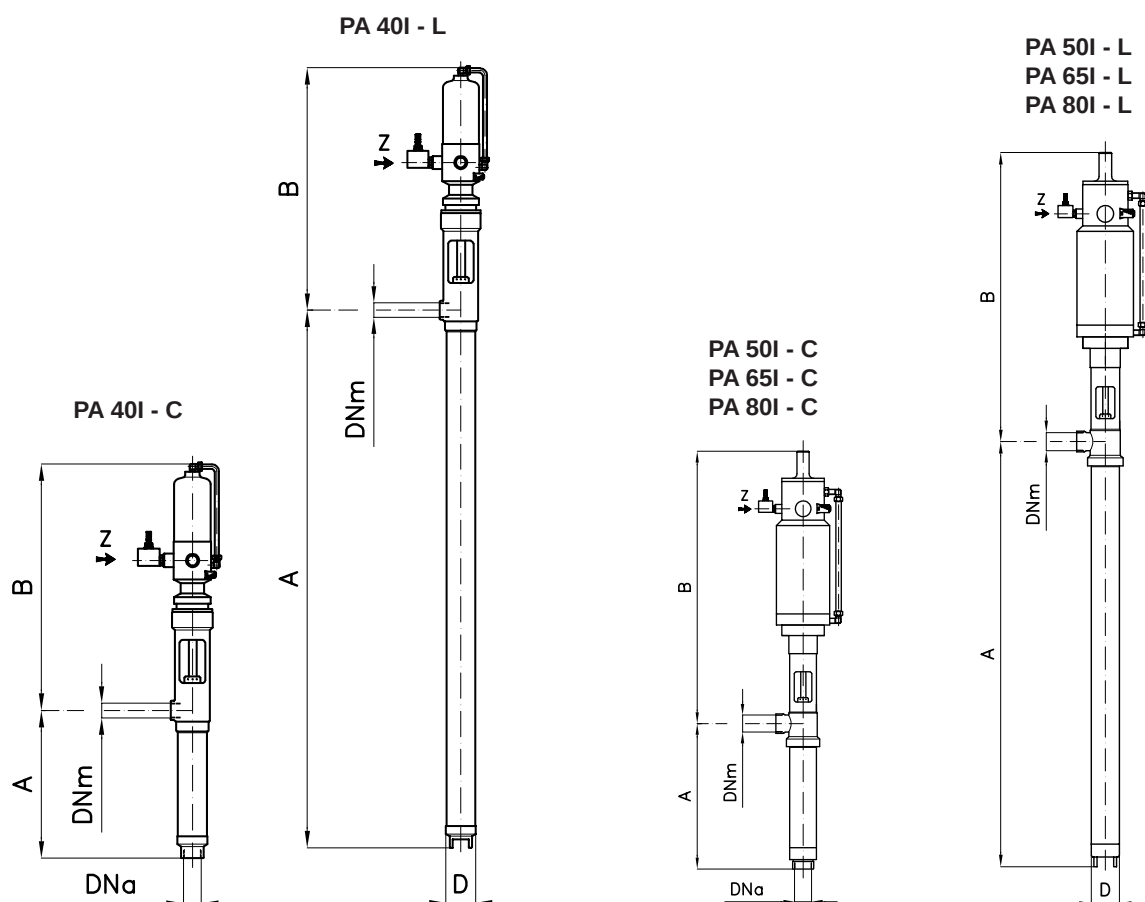
Each pump is mainly made up of the following:

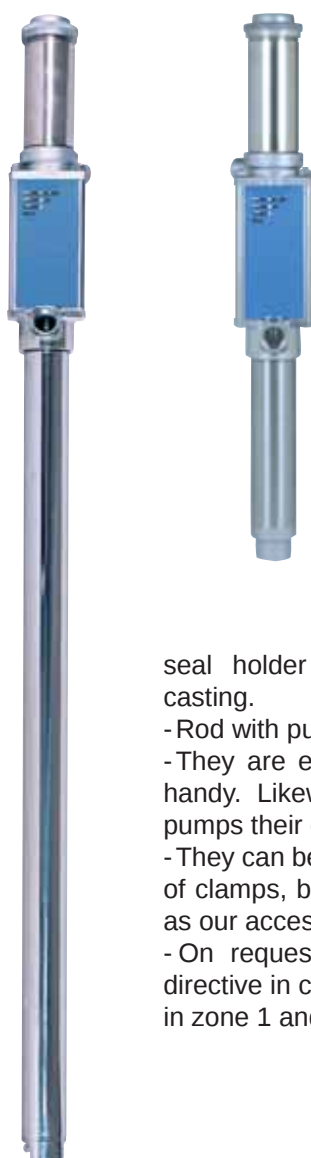
- In-take port with relative ball or mushroom valve
- Cylinder obtained from weld-free tubes
- Collar (seal holder) achieved by investment casting
- Rod with valve carrying pumping piston

The pumps are normally light and very handy. The heavier pumps can be fitted on special trolleys (Art. 53) or with clamp (Art. 50-51-55-403) to secure the pump to the edge of the tank, to the container to be emptied or to the wall.

The pumps are easily disassembled for their inspection and internal cleaning on a periodic basis. Each part of the pump can be reached and inspected. They can be used in environments with potentially explosive atmospheres as they are operated pneumatically. Their operation is adjustable likewise for most pneumatic pumps.

| DIMENSIONS    |                |                                          |       |     |              |            |               |                                                                  |           |       |
|---------------|----------------|------------------------------------------|-------|-----|--------------|------------|---------------|------------------------------------------------------------------|-----------|-------|
| PUMPS         | Z              | A                                        |       | B   | DNm          | Inlet port |               | Max.<br>consumption<br>of air in l/min<br>at feeding<br>pressure | Weight kg |       |
|               | Ø<br>Air inlet | Height between<br>inlet and outlet ports |       |     | Outlet port  | Long       | Short         |                                                                  | Long      | Short |
|               |                | Long                                     | Short |     |              | D          | DNa           |                                                                  |           |       |
| PA 40 I - 63  | 1/4" Gas       | 1018                                     | 237   | 484 | 1/2" Gas F   | Ø 42       | 3/4" Gas F    | 42                                                               | 14        | 12    |
| PA 40 I - 80  | 1/4" Gas       | 1018                                     | 230   | 507 | 1/2" Gas F   | Ø 42       | 3/4" Gas F    | 90                                                               | 16        | 14    |
| PA 40 I - 100 | 1/2" Gas       | 1018                                     | 230   | 637 | 1/2" Gas F   | Ø 42       | 3/4" Gas F    | 104                                                              | 16        | 14    |
| PA 40 I - 130 | 1/2" Gas       | 1018                                     | 230   | 766 | 1/2" Gas F   | Ø 42       | 3/4" Gas F    | 250                                                              | 23        | 21    |
| PA 40 I - 150 | 1/2" Gas       | 1018                                     | 230   | 680 | 1/2" Gas F   | Ø 42       | 3/4" Gas F    | 200                                                              | 24        | 22    |
| PA 50 I - 63  | 1/4" Gas       | 1014                                     | 274   | 458 | 3/4" Gas F   | Ø 55       | 1" Gas F      | 42                                                               | 13        | 8     |
| PA 50 I - 80  | 1/4" Gas       | 1014                                     | 274   | 473 | 3/4" Gas F   | Ø 55       | 1" Gas F      | 90                                                               | 15        | 11    |
| PA 50 I - 100 | 1/2" Gas       | 1014                                     | 334   | 652 | 3/4" Gas F   | Ø 55       | 1" Gas F      | 104                                                              | 19        | 16,5  |
| PA 50 I - 130 | 1/2" Gas       | 1014                                     | 334   | 778 | 3/4" Gas F   | Ø 55       | 1" Gas F      | 250                                                              | 23        | 20,5  |
| PA 50 I - 150 | 1/2" Gas       | 1014                                     | 334   | 662 | 3/4" Gas F   | Ø 55       | 1" Gas F      | 200                                                              | 22        | 19,5  |
| PA 65 I - 80  | 1/4" Gas       | 1130                                     | 349   | 487 | 1 1/2" Gas F | Ø 76       | 1" 1/2" Gas F | 80                                                               | 26        | 21    |
| PA 65 I - 100 | 1/2" Gas       | 1130                                     | 349   | 646 | 1 1/2" Gas F | Ø 76       | 1" 1/2" Gas F | 104                                                              | 27        | 22    |
| PA 65 I - 130 | 1/2" Gas       | 1130                                     | 349   | 768 | 1 1/2" Gas F | Ø 76       | 1" 1/2" Gas F | 250                                                              | 31        | 26    |
| PA 65 I - 150 | 1/2" Gas       | 1130                                     | 349   | 656 | 1 1/2" Gas F | Ø 76       | 1" 1/2" Gas F | 200                                                              | 30        | 25    |
| PA 80 I - 100 | 1/2" Gas       | 1126                                     | 370   | 685 | 2" Gas F     | Ø 96       | 3" Gas F      | 104                                                              | 32        | 26    |
| PA 80 I - 130 | 1/2" Gas       | 1126                                     | 370   | 755 | 2" Gas F     | Ø 96       | 3" Gas F      | 250                                                              | 35        | 29    |
| PA 80 I - 150 | 1/2" Gas       | 1126                                     | 370   | 695 | 2" Gas F     | Ø 96       | 3" Gas F      | 200                                                              | 34        | 28    |
| PA 80 I - 210 | 3/4" Gas       | 1126                                     | 370   | 765 | 2" Gas F     | Ø 96       | 3" Gas F      | 620                                                              | 40        | 34    |





### MANUFACTURE

In AISI 316 stainless steel in aluminium and galvanised iron.  
Piston ring and rod seal in PTFE, pump components screwed together, discharge ports with cylindrical GAS threading

### CHARACTERISTICS

Pneumatic piston pumps, light-weight for lighter duty requirements. They are screwed to the pneumatic motor.

Each pump is made up of the following:

- In-take port with ball or mushroom valve
- Cylinder obtained from weld-free tubes
- Pump casing (rod-seal holder and outlet) achieved by casting.

- Rod with pumping piston and valve.

- They are easy to assemble, light and handy. Likewise for all our pneumatic pumps their operation is adjustable.

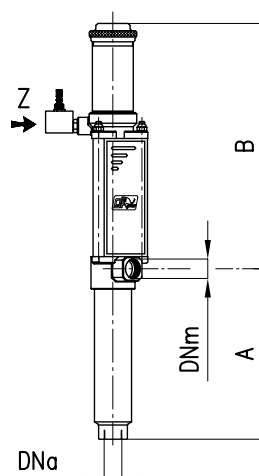
- They can be secured with various types of clamps, brackets or trolleys, supplied as our accessories.

- On request in compliance with Atex directive in category 2G and 3G for uses in zone 1 and 2.

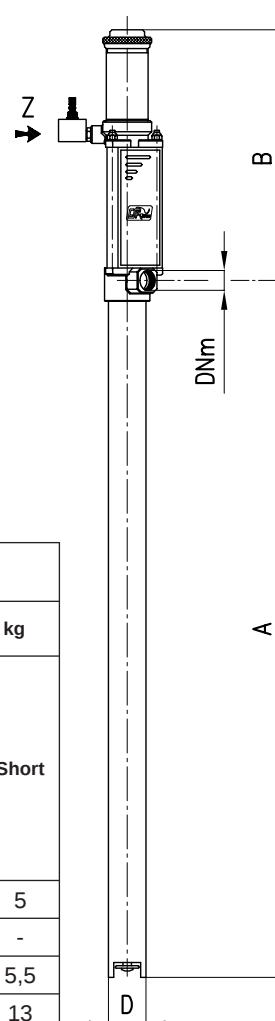
### PERFORMANCES

| PUMPS       | Pressure ratio | Recomm. max. cycles per minute | Max. flow rate l/min for viscosity of 1000 cP |
|-------------|----------------|--------------------------------|-----------------------------------------------|
| PAR 30 - 50 | 4 : 1          | 180                            | 7,5                                           |
| PAR 40 - 50 | 2 : 1          | 180                            | 12                                            |
| PAR 50 - 50 | 1 : 1          | 180                            | 25                                            |
| PAR 50 - 65 | 2 : 1          | 160                            | 25                                            |
| PAR 65 - 50 | 0,7 : 1        | 160                            | 55                                            |
| PAR 65 - 65 | 0,7 : 1        | 160                            | 55                                            |

PAR - C



PAR - L



### DIMENSIONS

| PUMPS       | Z           | A                                     |       | B   | Outlet port  | Inlet port |            | Max. consumption of air in l/min at feeding pressure | Weight kg |       |
|-------------|-------------|---------------------------------------|-------|-----|--------------|------------|------------|------------------------------------------------------|-----------|-------|
|             | Ø Air inlet | Height between inlet and outlet ports |       | DNm |              | Long       | Short      |                                                      | Long      | Short |
|             |             | Long                                  | Short |     |              | D          | DNa        |                                                      | Long      | Short |
| PAR 30 - 50 | 1/4" Gas    | 999                                   | 209   | 368 | 3/4" Gas F   | Ø 34       | 1/2" Gas F | 75                                                   | 6         | 5     |
| PAR 40 - 50 | 1/4" Gas    | 1025                                  | 257   | 368 | 3/4" Gas F   | Ø 42       | 3/4" Gas F | 75                                                   | 7         | -     |
| PAR 50 - 50 | 1/4" Gas    | 1005                                  | 265   | 368 | 3/4" Gas F   | Ø 54       | 3/4" Gas F | 75                                                   | 8,5       | 5,5   |
| PAR 50 - 65 | 3/8" Gas    | 1059                                  | 333   | 466 | 1 1/2" Gas F | Ø 54       | 3/4" Gas F | 125                                                  | 15,5      | 13    |
| PAR 65 - 50 | 3/8" Gas    | 1224                                  | -     | 466 | 1 1/2" Gas F | Ø 54       | -          | 125                                                  | 15        | -     |
| PAR 65 - 65 | 3/8" Gas    | 1098                                  | 321   | 466 | 1 1/2" Gas F | Ø 88       | 2" Gas F   | 125                                                  | 17        | 14,5  |



Air-operated piston pumps applications.

- Emptying of standard or special barrels
- With immersed pump
- With scraping plate
- Short version for special applications

# PA.AP HIGH PRESSURE INDUSTRIAL SERIES CHARACTERISTICS



PA 30 AP



2 PA 50 AP with air motor



PA 65 AP

## PERFORMANCES

| PUMPS        | Pressure ratio | Recomm. max. cycles per minute | Max. flow rate l/min for viscosity of 1000 cP |
|--------------|----------------|--------------------------------|-----------------------------------------------|
| PA 30AP - 63 | 10 : 1         | 80                             | 1,6                                           |
| PA 30AP - 80 | 16 : 1         | 60                             | 2                                             |
| PA 30AP -100 | 25 : 1         | 50                             | 2                                             |
| PA 30AP -135 | 44 : 1         | 50                             | 2                                             |
| PA 30AP -150 | 61 : 1         | 40                             | 1,6                                           |
| PA 40AP - 63 | 5,6 : 1        | 80                             | 3                                             |
| PA 40AP - 80 | 8,8 : 1        | 60                             | 4                                             |
| PA 40AP -100 | 14 : 1         | 50                             | 3,7                                           |
| PA 40AP -135 | 24 : 1         | 50                             | 3,7                                           |
| PA 40AP -150 | 33 : 1         | 40                             | 3                                             |
| PA 50AP -100 | 7,5 : 1        | 50                             | 7                                             |
| PA 50AP -135 | 13 : 1         | 50                             | 7                                             |
| PA 50AP -150 | 18 : 1         | 40                             | 5,6                                           |
| PA 50AP -210 | 34 : 1         | 30                             | 6,7                                           |
| PA 65AP -130 | 7 : 1          | 50                             | 13                                            |
| PA 65AP -150 | 9,4 : 1        | 40                             | 10,5                                          |
| PA 65AP -210 | 18 : 1         | 30                             | 12,7                                          |

## MANUFACTURE

In AISI 304 stainless steel

Piston with CHEVRON pack Teflon seal with springs.

## PUMP COMPONENTS

- Screwed together in types PA 30 AP and PA 40 AP and secured together by flanges and tie rods in types PA 50 AP, PA 65 AP, PA 80 AP.
- GAS male in-take port
- GAS female pumping port

## CHARACTERISTICS

Pneumatic piston pumps for high pressures, manufactured in thickness suitable for the duty. Secured to pneumatic motors with special flanged connection supports.

- Cylinders obtained from weld-free high pressure tubes.
- Seal holder shell obtained from full block.
- Piston rod with hard chrome insert and Rulon guide.
- Piston in Teflon with ball valve and return spring.
- Teflon seal with return spring.
- In-take port with ball valve.

Easy to install pumps in either barrels or containers or wall-mounted with special shelves. They are completed with scraper plates for emptying barrels.

Each pump part can be easily reached and disassembled for cleaning and maintenance purposes.

Their operation is adjustable likewise for all pneumatic pumps.

Not available with Atex certification.

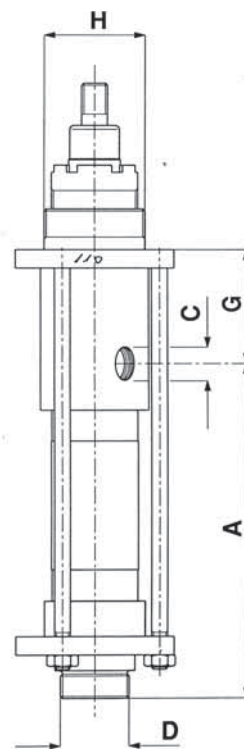
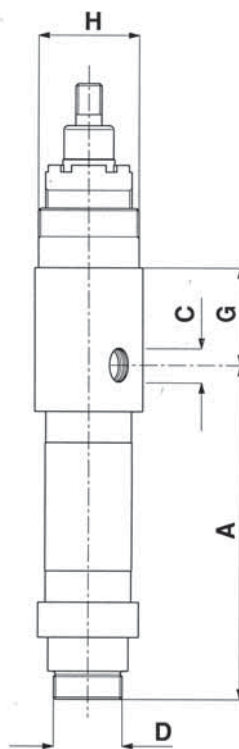
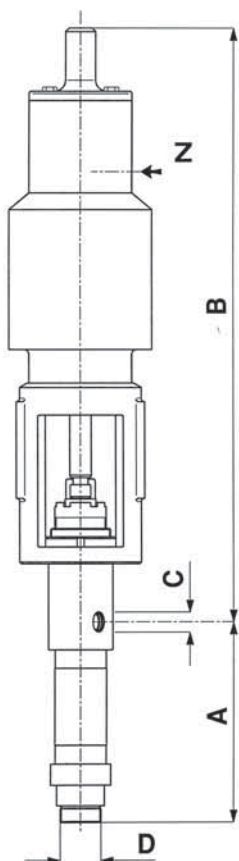
## PERFORMANCE

The pneumatic pumps of the PA..AP series are available in many versions.

They are combined with various motors and thanks to the cycle variation they offer ample performance. In the twin version (2PA..) they are offered for pumping two different products.

## DIMENSIONS

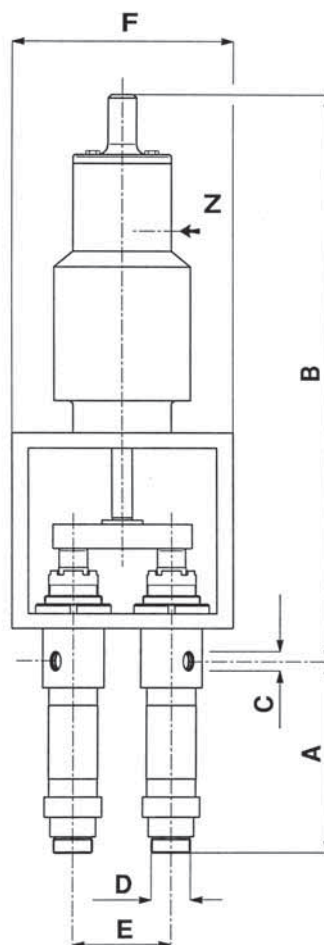
| PUMPS       | Z              | A                                                 | B   | C            | D            | G  | H        | Max.<br>consumption of<br>air in l/min<br>at feeding<br>pressure | Weight<br>kg |
|-------------|----------------|---------------------------------------------------|-----|--------------|--------------|----|----------|------------------------------------------------------------------|--------------|
|             | Ø<br>Air inlet | Height<br>between<br>inlet and<br>outlet<br>ports |     | Outlet port  | Inlet port   |    |          |                                                                  |              |
| PA 30AP- 63 | 1/4" Gas       | 215                                               | 526 | 1/2" Gas F   | 3/4" Gas M   | 68 | 50 x 1,5 | 22                                                               |              |
| PA 30AP- 80 | 1/4" Gas       | 215                                               | 572 | 1/2" Gas F   | 3/4" Gas M   | 68 | 50 x 1,5 | 45                                                               |              |
| PA 30AP-100 | 3/8" Gas       | 215                                               | 699 | 1/2" Gas F   | 3/4" Gas M   | 68 | 50 x 1,5 | 66                                                               |              |
| PA 30AP-135 | 1/2" Gas       | 215                                               | 774 | 1/2" Gas F   | 3/4" Gas M   | 68 | 50 x 1,5 | 11                                                               |              |
| PA 30AP-150 | 1/2" Gas       | 215                                               | 705 | 1/2" Gas F   | 3/4" Gas M   | 68 | 50 x 1,5 | 126                                                              |              |
| PA 40AP- 63 | 1/4" Gas       | 230                                               | 495 | 1/2" Gas F   | 1" Gas M     | 66 | 50 x 1,5 | 22                                                               |              |
| PA 40AP- 80 | 1/4" Gas       | 230                                               | 540 | 1/2" Gas F   | 1" Gas M     | 66 | 50 x 1,5 | 45                                                               |              |
| PA 40AP-100 | 3/8" Gas       | 230                                               | 698 | 1/2" Gas F   | 1" Gas M     | 66 | 50 x 1,5 | 66                                                               |              |
| PA 40AP-135 | 1/2" Gas       | 230                                               | 772 | 1/2" Gas F   | 1" Gas M     | 66 | 50 x 1,5 | 115                                                              |              |
| PA 40AP-150 | 1/2" Gas       | 230                                               | 703 | 1/2" Gas F   | 1" Gas M     | 66 | 50 x 1,5 | 126                                                              |              |
| PA 50AP-100 | 3/8" Gas       | 238                                               | 700 | 3/4" Gas F   | 1 1/2" Gas M | 69 | 70 x 2   | 66                                                               |              |
| PA 50AP-135 | 1/2" Gas       | 238                                               | 775 | 3/4" Gas F   | 1 1/2" Gas M | 69 | 70 x 2   | 115                                                              |              |
| PA 50AP-150 | 1/2" Gas       | 238                                               | 706 | 3/4" Gas F   | 1 1/2" Gas M | 69 | 70 x 2   | 126                                                              |              |
| PA 50AP-210 | 3/4" Gas       | 238                                               | 785 | 3/4" Gas F   | 1 1/2" Gas M | 69 | 70 x 2   | 291                                                              |              |
| PA 65AP-130 | 1/2" Gas       | 380                                               | 738 | 1 1/2" Gas F | 2" Gas M     |    |          | 115                                                              |              |
| PA 65AP-150 | 1/2" Gas       | 380                                               | 743 | 1 1/2" Gas F | 2" Gas M     |    |          | 126                                                              |              |
| PA 65AP-210 | 3/4" Gas       | 380                                               | 823 | 1 1/2" Gas F | 2" Gas M     |    |          | 291                                                              |              |



## TWIN VERSION

### PERFORMANCES

| PUMPS          | Pressure ratio | Recomm. max. cycles per minute | Max. flow rate l/min for viscosity of 1000 cP |
|----------------|----------------|--------------------------------|-----------------------------------------------|
| 2PA 30AP - 63  | 5 : 1          | 80                             | 3,2                                           |
| 2PA 30AP - 80  | 8 : 1          | 60                             | 4                                             |
| 2PA 30AP - 100 | 12,5 : 1       | 50                             | 4                                             |
| 2PA 30AP - 135 | 22 : 1         | 50                             | 4                                             |
| 2PA 30AP - 150 | 30,5 : 1       | 40                             | 3,2                                           |
| 2PA 40AP - 80  | 4,4 : 1        | 60                             | 8                                             |
| 2PA 40AP - 100 | 7 : 1          | 50                             | 7,4                                           |
| 2PA 40AP - 135 | 12 : 1         | 50                             | 7,4                                           |
| 2PA 40AP - 150 | 16,5 : 1       | 40                             | 6                                             |
| 2PA 50AP - 100 | 3,8 : 1        | 50                             | 14                                            |
| 2PA 50AP - 135 | 6,5 : 1        | 50                             | 14                                            |
| 2PA 50AP - 150 | 9 : 1          | 40                             | 11,2                                          |
| 2PA 50AP - 210 | 17 : 1         | 30                             | 13,4                                          |



### DIMENSIONS

| PUMPS          | Z           | A                                     | B   | C           | D            | E   | F   | Max. consumption of air in l/min at feeding pressure | Weight kg |
|----------------|-------------|---------------------------------------|-----|-------------|--------------|-----|-----|------------------------------------------------------|-----------|
|                | Ø Air inlet | Height between inlet and outlet ports |     | Outlet port | Inlet port   |     |     |                                                      |           |
| 2PA 30AP - 63  | 1/4" Gas    | 215                                   | 535 | 1/2" Gas F  | 3/4" Gas M   | 90  | 210 | 22                                                   |           |
| 2PA 30AP - 80  | 1/4" Gas    | 215                                   |     | 1/2" Gas F  | 3/4" Gas M   |     |     | 45                                                   |           |
| 2PA 30AP - 100 | 3/8" Gas    | 215                                   |     | 1/2" Gas F  | 3/4" Gas M   |     |     | 66                                                   |           |
| 2PA 30AP - 135 | 1/2" Gas    | 215                                   |     | 1/2" Gas F  | 3/4" Gas M   |     |     | 115                                                  |           |
| 2PA 30AP - 150 | 1/2" Gas    | 215                                   |     | 1/2" Gas F  | 3/4" Gas M   |     |     | 126                                                  |           |
| 2PA 40AP - 80  | 1/4" Gas    | 230                                   | 588 | 1/2" Gas F  | 1" Gas M     | 90  | 200 | 45                                                   |           |
| 2PA 40AP - 100 | 3/8" Gas    | 230                                   | 698 | 1/2" Gas F  | 1" Gas M     | 90  | 200 | 66                                                   |           |
| 2PA 40AP - 135 | 1/2" Gas    | 230                                   | 773 | 1/2" Gas F  | 1" Gas M     | 90  | 200 | 115                                                  |           |
| 2PA 40AP - 150 | 1/2" Gas    | 230                                   | 703 | 1/2" Gas F  | 1" Gas M     | 90  | 200 | 126                                                  |           |
| 2PA 50AP - 100 | 3/8" Gas    | 238                                   | 740 | 3/4" Gas F  | 1 1/2" Gas M | 120 | 270 | 66                                                   |           |
| 2PA 50AP - 135 | 1/2" Gas    | 238                                   | 815 | 3/4" Gas F  | 1 1/2" Gas M | 120 | 270 | 115                                                  |           |
| 2PA 50AP - 150 | 1/2" Gas    | 238                                   | 745 | 3/4" Gas F  | 1 1/2" Gas M | 120 | 270 | 126                                                  |           |
| 2PA 50AP - 210 | 3/4" Gas    | 238                                   | 825 | 3/4" Gas F  | 1 1/2" Gas M | 120 | 270 | 291                                                  |           |

# ACCESSORIES

## Art. 54

Mobile hoist to lift the pump, with balance weight.



## Art. 50

2" threaded clamp to fix PA/PAR pumps to standard barrels.



## Art. 403

Light clamp with threaded connection to fix PA/PAR pumps on support.



## Art. 51

Double clamp to fix the pumps on tanks or containers edge.



## Art. 55

Wall brackets for fixing pumps to the wall.



## Art. 59-60

Scraping plate to be applied to the short pump.



## Art. 53

Tripod, with wheels or fixed, for short pumps.



## Art. 52

Bag control linear flow outlet product.



## Art. 58

Automatic electrovalve to close/open airflow.





### TECHNICAL FEATURES OF AIR-OPERATED MOTOR PAA SERIES

Double acting reciprocating motor with air distributing valve. Air inlet provided with shutting regulator to change the stroke frequency.

The speed is adjustable according to the models from 10 to 150 strokes by turning the regulator.

Made of anticorodal aluminium with internal gears in steel and special alloys.

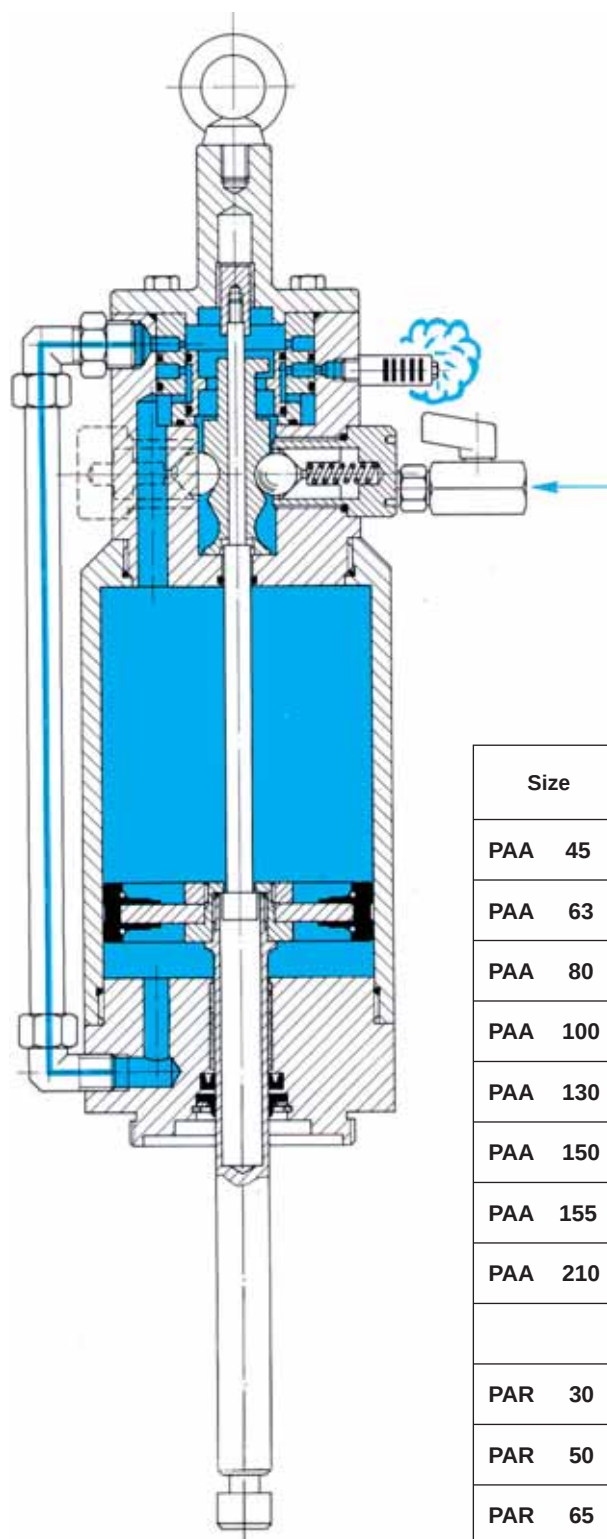
It is available in 8 different models and with corresponding reduced connections and can be coupled with a number of pumps, thus offering various combinations.

### TECHNICAL FEATURES OF AIR-OPERATED MOTOR PAR SERIES

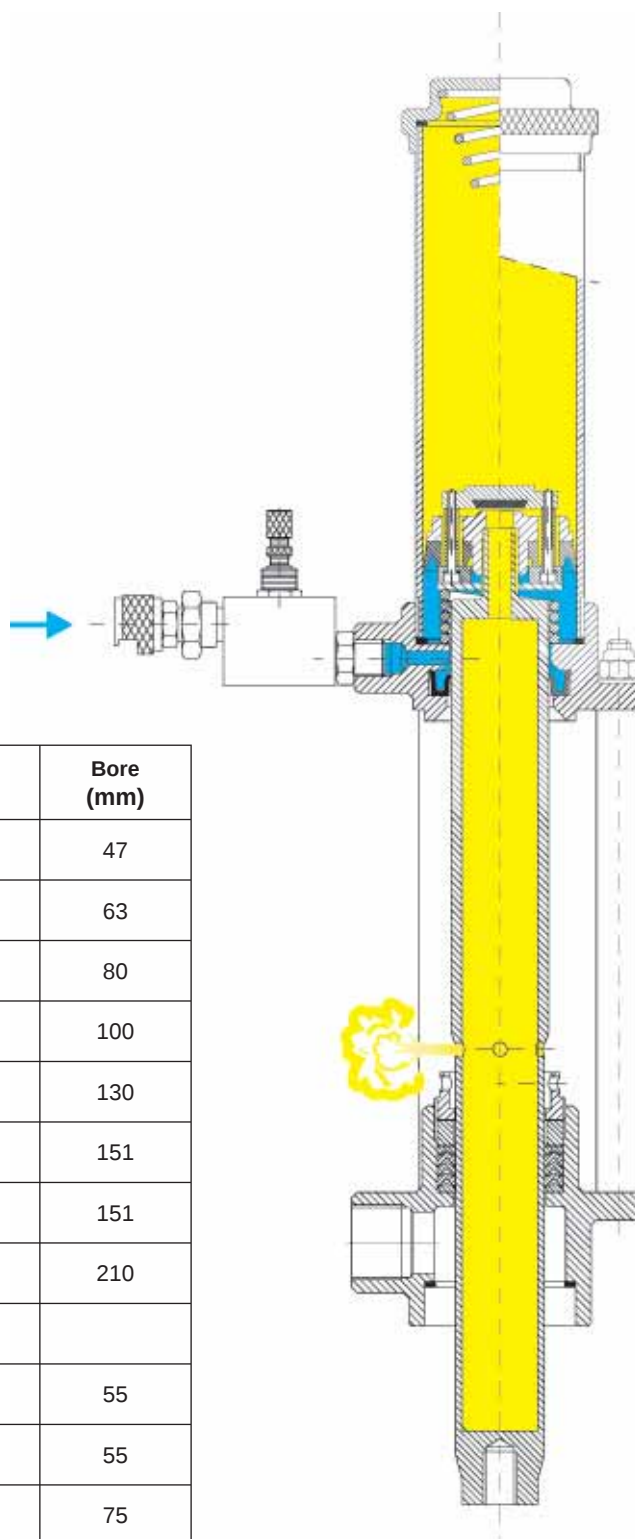
Double acting reciprocating motor with spring return device. Air inlet provided with shutting regulator to change the stroke frequency.

The speed is adjustable according to the models from 10 to 180 strokes by turning the regulator.

Made of brass, aluminium and steel, it is built-in the pump and available in 6 models.



| Size    | Stroke (mm) | Bore (mm) |
|---------|-------------|-----------|
| PAA 45  | 28          | 47        |
| PAA 63  | 45          | 63        |
| PAA 80  | 80          | 80        |
| PAA 100 | 88          | 100       |
| PAA 130 | 150         | 130       |
| PAA 150 | 88          | 151       |
| PAA 155 | 150         | 151       |
| PAA 210 | 143         | 210       |
|         |             |           |
| PAR 30  | 75          | 55        |
| PAR 50  | 75          | 55        |
| PAR 65  | 85          | 75        |





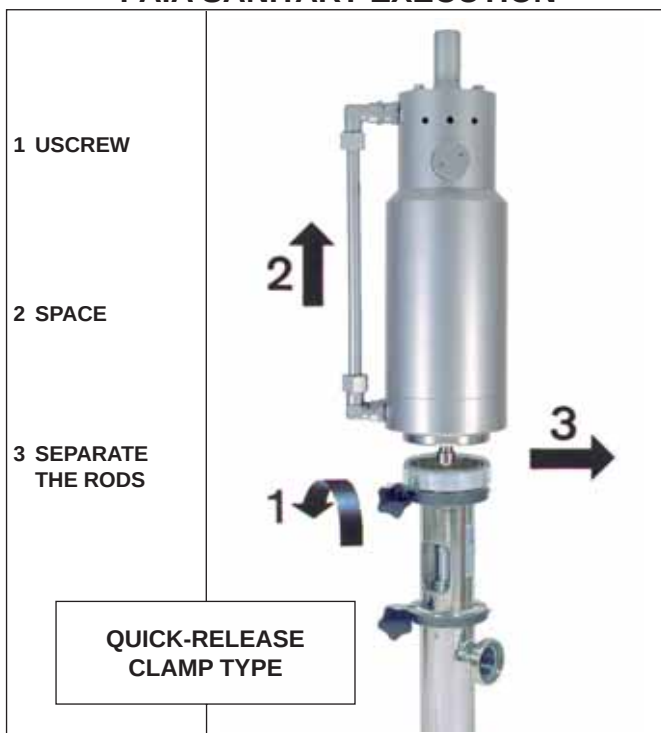
## PAA

Pneumatic motor with adjustable speed and automatic stroke and return device

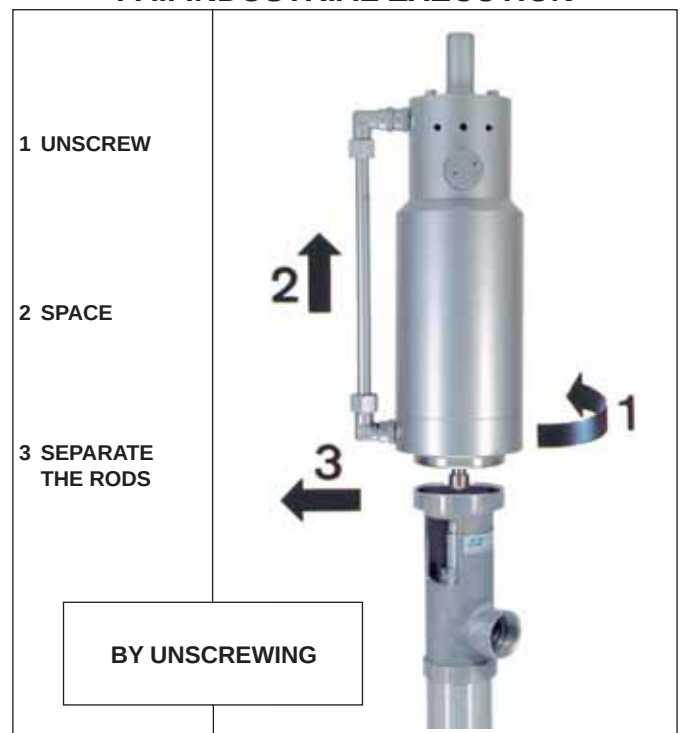


The motor pump rods are coupled by means of bayonet type connection to be screwed or clamped to the structures.

### PA.A SANITARY EXECUTION



### PA.I INDUSTRIAL EXECUTION



### PAR INDUSTRIAL EXECUTION

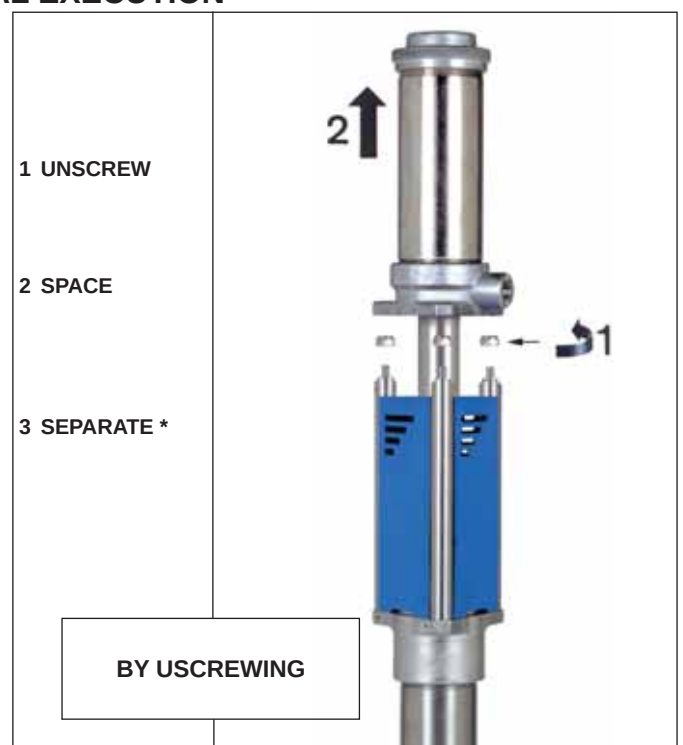
## PAR

Pneumatic motor with adjustable speed and spring return device

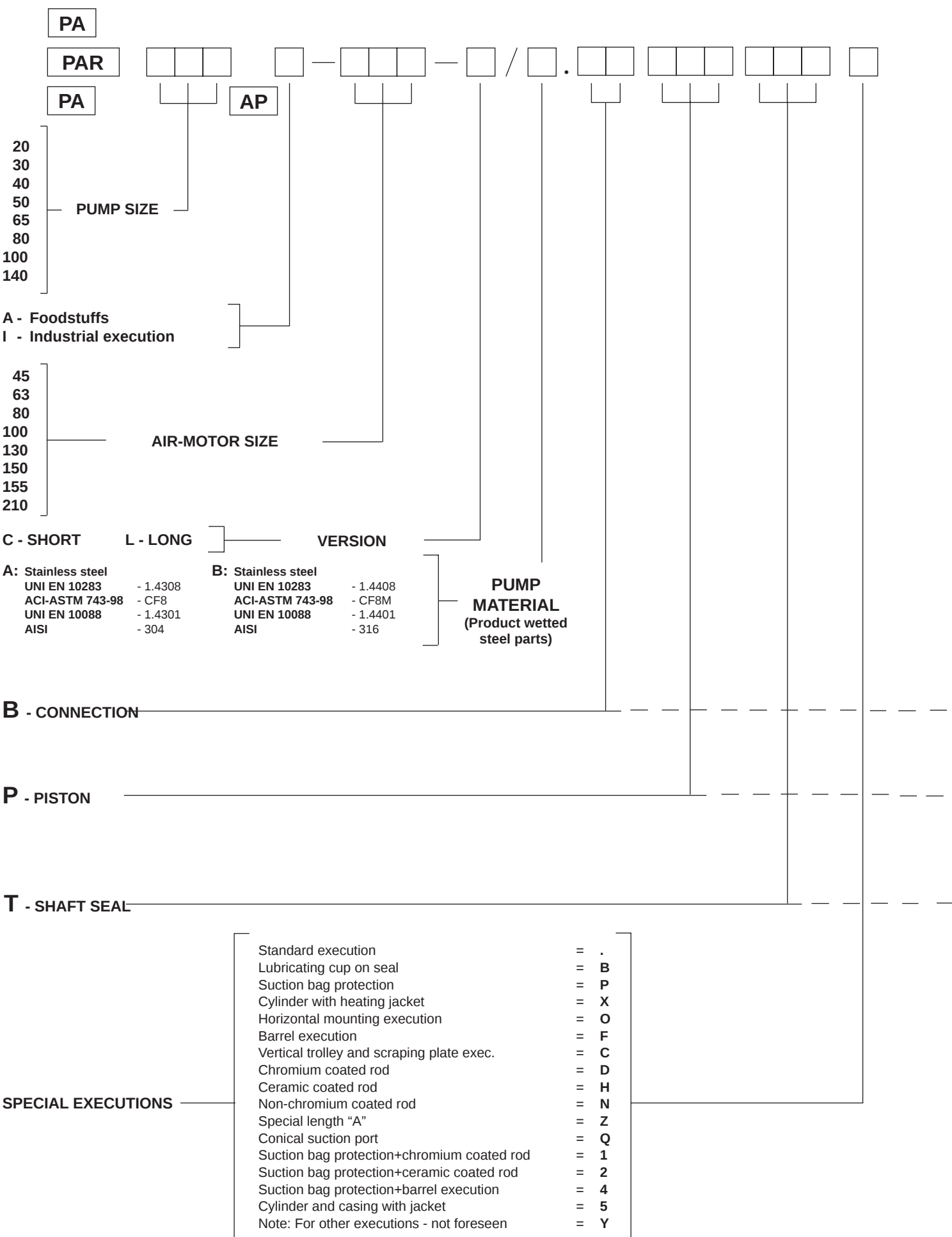


The motor is secured to the pump by means of some connection supports, whereas the rod is screwed.

\* To be able to separate the motor / pump the cylinder and tie rod must first be unscrewed.

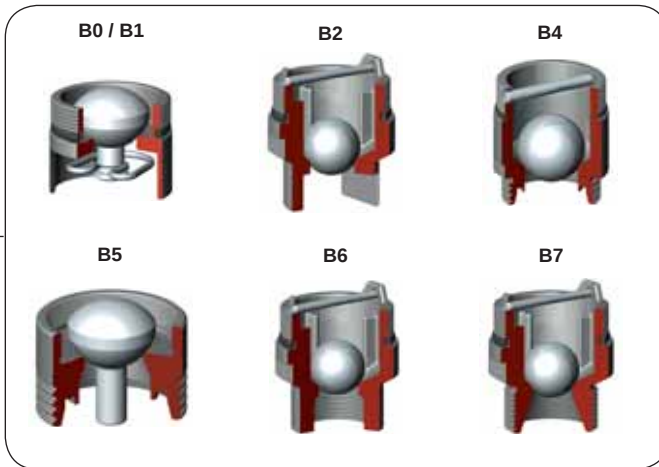


## PUMP CODES GUIDE

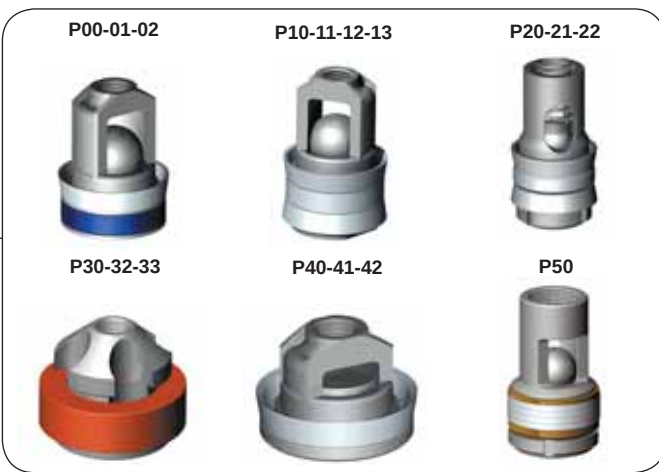


**Example: PA 50A-100-C/A. B5 P00 T00X**

## CONNECTIONS



- B0** - Immersed mushroom valve (P.T.F.E)
- B1** - Immersed mushroom valve (S.S.I)
- B2** - Immersed ball valve (S.S.)
- B4** - DIN male with ball valve (S.S.)
- B5** - DIN with mushroom valve (S.S.)
- B6** - GAS female with ball valve (S.S.)
- B7** - GAS male with ball valve (S.S.)



## PISTONS

- P00** - Ball piston with 1 seal (P.T.F.E)
- P01** - Ball piston with 1 seal (Leather)
- P02** - Ball piston with 1 seal (Vulcolan)
- P10** - Ball piston with 2 seals (P.T.F.E)
- P11** - Ball piston with 2 seals (Leather)
- P12** - Ball piston with 2 seals (Vulcolan)
- P13** - Ball piston with 2 seals (Fluorocarbon)
- P20** - Ball piston with 2 seals+spring (P.T.F.E)
- P21** - Ball piston with 2 seals+spring (Leather)
- P22** - Ball piston with 2 seals+spring (Vulcolan)
- P30** - With ring (P.T.F.E)
- P32** - With ring (Vulcolan)
- P33** - With ring (Rubber)
- P40** - With washer and 1 seal (P.T.F.E)
- P41** - With washer and 1 seal (Leather)
- P42** - With washer and 1 seal (Vulcolan)
- P50** - Rings pack (P.T.F.E)



## SHAFT SEALS

- T00** - "Chevron" (P.T.F.E)
- T01** - "Chevron" (Mixed leather)
- T02** - "Chevron" + spring (P.T.F.E)
- T03** - "Chevron" + spring (Mixed leather)
- T04** - "Chevron" (Algoflon)
- T05** - "Chevron" (PTFE - Algoflon)
- T10** - "DI" ring (Rubber)
- T11** - "DI" ring (Fluorocarbon)
- T12** - "FM" SAFCO ring (P.T.F.E)
- T13** - "FM" ring + "Chevron" (P.T.F.E)
- T14** - "FM" ring + "Chevron" + "H" (P.T.F.E)
- T20** - "H" ring (Rubber)
- T21** - "H" ring (Fluorocarbon)
- T22** - "H" ring (P.T.F.E.)
- T25** - "H" ring + "Chevron" (Rubber)
- T26** - "H" ring + "Chevron" (Fluorocarbon)
- T27** - "H" ring + "Chevron" (P.T.F.E.)
- T30** - "H" ring + "DI" ring (Rubber)
- T31** - "H" ring + "DI" ring (Fluorocarbon)
- T40** - "H" ring + "Ecopur"
- T41** - "H" ring + "Ecopur" + spring
- T42** - "H" ring + "Ecopur" + "Chevron"

# VARIOUS EXECUTIONS

Air-operated piston pump with mobile hoist.



With pneumatic cylinder and control panel.

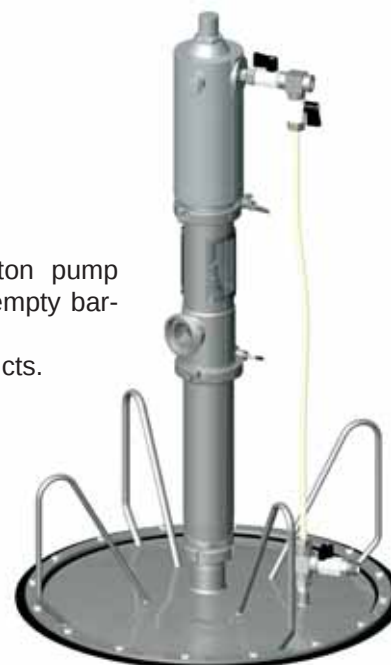
It is realised in a manual sliding model with counterweight for balancing.



Short air-operated piston pump on tripod with wheels or fixed.



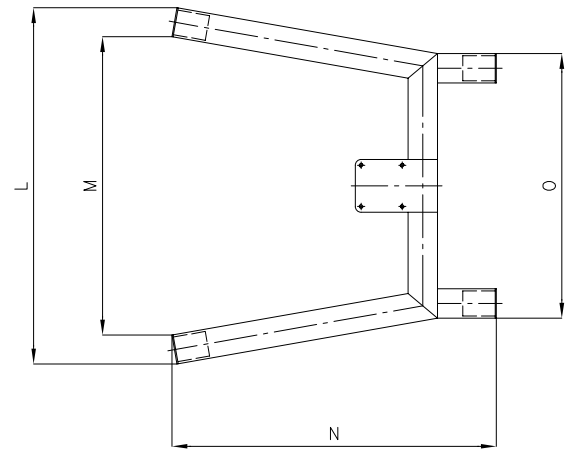
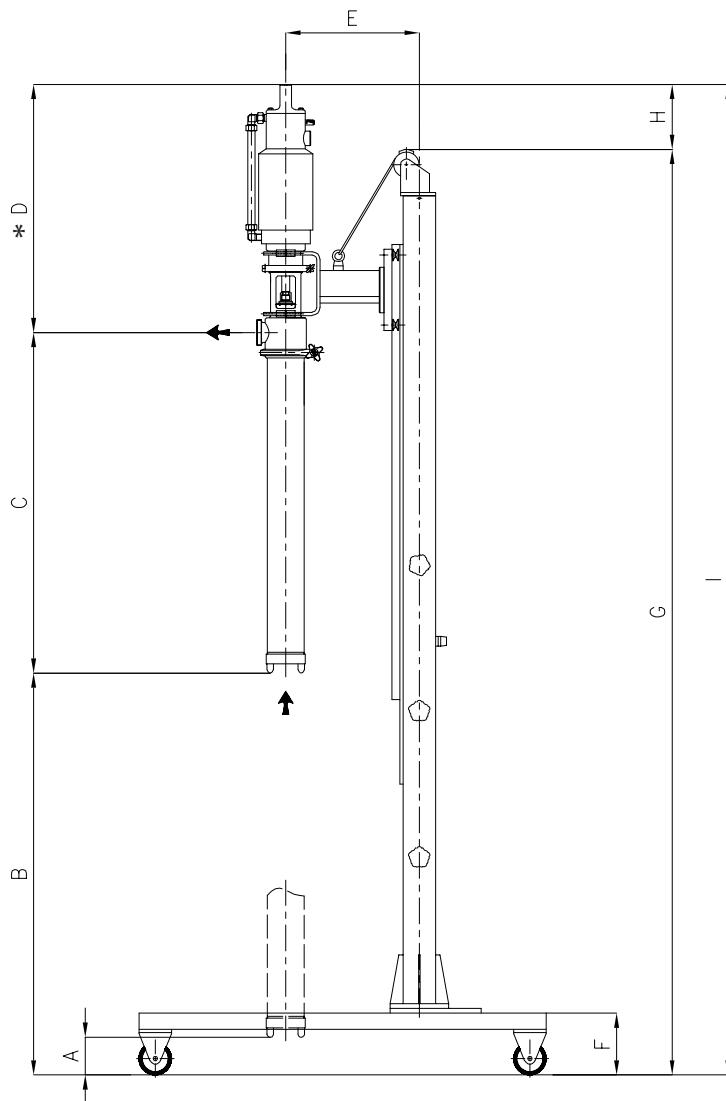
Short air-operated piston pump with scraping plate to empty barrels or cylindrical tanks. For high viscosity products.



Mobile unit with double pneumatic piston for big-sized basins with air-operated piston pump and scraping plate. For mixtures, jams, creams etc...to be transferred after processing.

# DIMENSIONS

FOR PUMPS WITH MOBILE HOIST



| Pumps     | A   | B    | C    | * D | E   | F   | G    | H   | I    | L    | M    | N    | O   | Weight |
|-----------|-----|------|------|-----|-----|-----|------|-----|------|------|------|------|-----|--------|
| PA-PAR 50 | 148 | 1368 | 1165 | 515 | 318 | 173 | 2830 | 217 | 3047 | 980  | 787  | 696  | 580 |        |
| PA 65     | 30  | 1150 | 1111 | 767 | 360 | 168 | 2826 | 202 | 3028 | 1213 | 1016 | 1104 | 900 |        |
| PA 80     | 30  | 1150 | 1129 | 771 | 335 | 190 | 2847 | 203 | 3050 | 1213 | 1016 | 1104 | 900 |        |
| PA 100    | 116 | 1236 | 1048 | 763 | 411 | 190 | 2847 | 200 | 3047 | 1213 | 1016 | 1104 | 900 |        |
| PA 140    | 43  | 1163 | 1243 | 791 | 415 | 190 | 3090 | 107 | 3094 | 1213 | 1016 | 1104 | 900 |        |

\* Dimension referring to PAA 130 motor for PA 65-80-100-140 pumps

The table identifies the standard structure with hoist-mounted base fit for housing an Europallet. Customised realisations can be obtained for what concerns dimensions, manual or pneumatic movement, mobile or fixed, in stainless steel or painted iron.