

# BOXER 7

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



- Product designed and constructed in Italy
- PATENTED stall-prevention pneumatic circuit
- Operates with non-lubricated air
- SELF-PRIMING
- Dry operation
- ATEX certification for ZONE 1 - ZONE 2
- IECEx certification
- Adjustable operating speed
- Extremely versatile
- Suitable for pumping liquids with high viscosity and demanding applications
- Possibility of pumping fluids containing suspended solids
- Possibility of suspended installation
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP – PP+CF – PVDF
- Suitable for continuous use

# BOXER 7

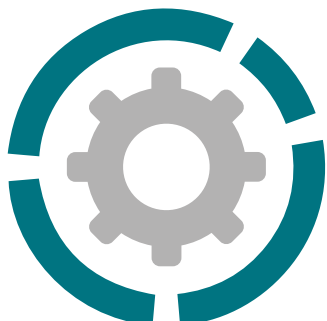
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



|                                           |             |
|-------------------------------------------|-------------|
| Suction / delivery connections            | G 1/4" f(*) |
| Air fitting                               | G 1/8" f    |
| Max flow rate*                            | 9 l/min     |
| Max supply air pressure                   | 8 bar       |
| Max head*                                 | 80 m        |
| Max negative suction head - dry-running** | 4 m         |
| Max negative suction head - pump primed   | 9,5 m       |
| Max diameter of suspended solids          | 0.5 mm      |
| Noise level                               | 65 dB       |
| Volume per stroke                         | 3.2 cc      |

(\*) NPT fittings on request

\*\* The value depends on the pump configuration.



PP

Boxer 7



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 120 mm |
| Width  | 138 mm |
| Depth  | 68 mm  |



### Construction materials (casing and manifolds) and net weight

|                                                        |                            |
|--------------------------------------------------------|----------------------------|
| <b>Polypropylene</b> (with glass additive)             | 0.7 Kg                     |
|                                                        | Temp. 3°C min.<br>65°C max |
| <b>Conductive polypropylene</b> (with carbon additive) | 0.7 Kg                     |
|                                                        | Temp. 3°C min.<br>65°C max |



PVDF

Boxer 7



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 120 mm |
| Width  | 138 mm |
| Depth  | 68 mm  |



### Construction materials (casing and manifolds) and net weight

|             |                          |
|-------------|--------------------------|
| <b>PVDF</b> | 0.7 Kg                   |
|             | Max 3°C min.<br>95°C max |

# BOXER 7

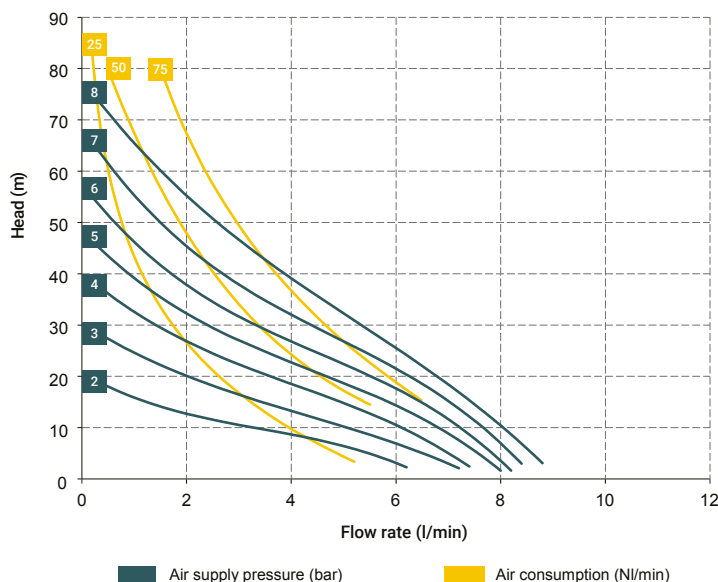
## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



### Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

#### T10 distributor material (pneumatic circuit):

- POM

#### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)

#### Diaphragm materials:

- PTFE
- NBR

#### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF

#### Balls materials:

- PTFE
- AISI 316
- EPDM

#### O-ring materials

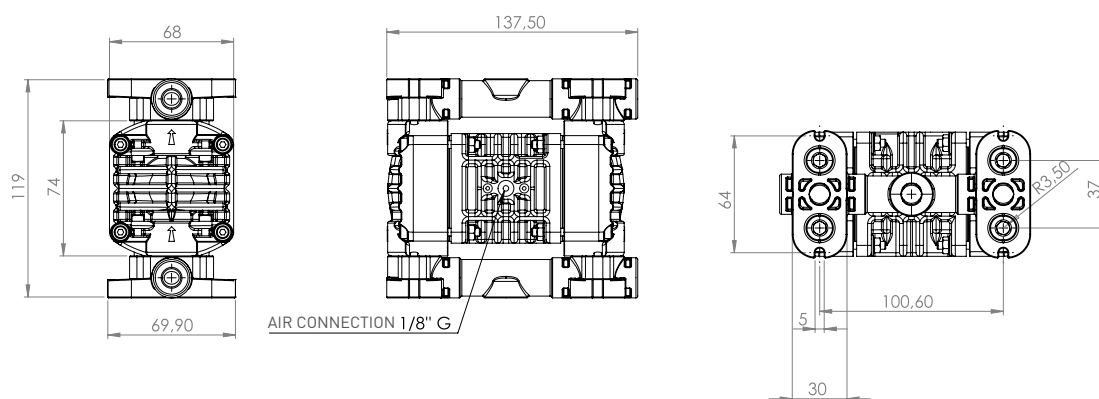
- EPDM
- NBR
- VITON®
- PTFE

#### Package:

cardboard box – cm 14 x 19 x 14 – weight 0.17 Kg  
(the weight refers to the package only, without the pump)

#### Accessories:

- Equaflex 51  
(For the dampener materials refer to the relative technical sheet)
- Air regulation kit W1000-8-G



### MAIN APPLICATION SECTORS



WATER AND SLUDGE  
TREATMENT



PACKING, GLUE,  
PAPER AND PAPER MILLS



CERAMIC, STONE, MAR-  
BLE, GLASS AND MINING  
INDUSTRY



AUTOMOTIVE



PAINT INDUSTRY



GALVANIC AND ELECTRONIC  
INDUSTRY



CHEMICAL  
INDUSTRY



GRAPHIC INDUSTRY

# BOXER 7

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx

(both only on request)

SELF-PRIMING USE



UNDER HEAD USE



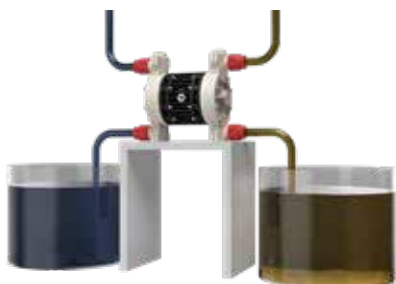
IMMERSED



DRUM TRANSFER



SPLIT SUCTION and DELIVERY



SPLIT SUCTION



# BOXER 15

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



- Product designed and constructed in Italy
- PATENTED stall-prevention pneumatic circuit
- Operates with non-lubricated air
- SELF-PRIMING
- Dry operation
- ATEX certification for ZONE 1 - ZONE 2
- IECEx certification
- Adjustable operating speed
- Extremely versatile
- Suitable for pumping liquids with high viscosity and demanding applications
- Possibility of pumping fluids containing suspended solids
- Possibility of suspended installation
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP – PP+CF – PVDF
- Suitable for continuous use

# BOXER 15

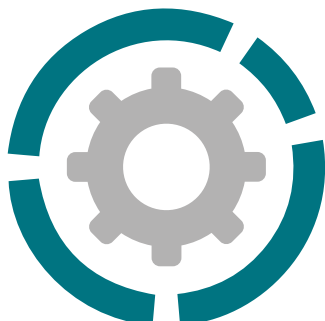
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



|                                           |             |
|-------------------------------------------|-------------|
| Suction / delivery connections            | G 3/8" f(*) |
| Air fitting                               | G 3/8" f    |
| Max flow rate*                            | 17 l/min    |
| Max supply air pressure                   | 8 bar       |
| Max head*                                 | 80 m        |
| Max negative suction head - dry-running** | 3 m         |
| Max negative suction head - pump primed   | 9,5 m       |
| Max diameter of suspended solids          | 0.5 mm      |
| Noise level                               | 65 dB       |
| Volume per stroke                         | 10.3 cc     |

(\*) clamp or NPT available only on request

\*\* The value depends on the pump configuration.



PP

Boxer 15



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 151 mm |
| Width  | 148 mm |
| Depth  | 80 mm  |



### Construction materials (casing and manifolds) and net weight

|                                     |              |
|-------------------------------------|--------------|
| Polypropylene (with glass additive) | 1.1 Kg       |
|                                     | Max 3°C min. |
|                                     | 65°C max     |

|                                                 |              |
|-------------------------------------------------|--------------|
| Conductive polypropylene (with carbon additive) | 1.1 Kg       |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



### Construction materials (casing and manifolds) available on request

POMc  
UHMWPE



PVDF

Boxer 15



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 151 mm |
| Width  | 148 mm |
| Depth  | 80 mm  |



### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PVDF | 1.38 Kg      |
|      | Max 3°C min. |
|      | 95°C max     |



### Construction materials (casing and manifolds) available on request

POMc  
UHMWPE

# BOXER 15

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### ALU

Boxer 15



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 141 mm |
| Width  | 153 mm |
| Depth  | 80 mm  |



#### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 1.9 Kg       |
|     | Max 3°C min. |
|     | 95°C max     |



### AISI 316 L steel

Boxer 15



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 141 mm |
| Width  | 153 mm |
| Depth  | 80 mm  |



#### Construction materials (casing and manifolds) and net weight

|            |              |
|------------|--------------|
| AISI 316 L | 2.4 Kg       |
|            | Max 3°C min. |
|            | 95°C max     |



#### Construction materials (casing and manifolds) available on request

DUPLEX/W.DUPLEX



# BOXER 15

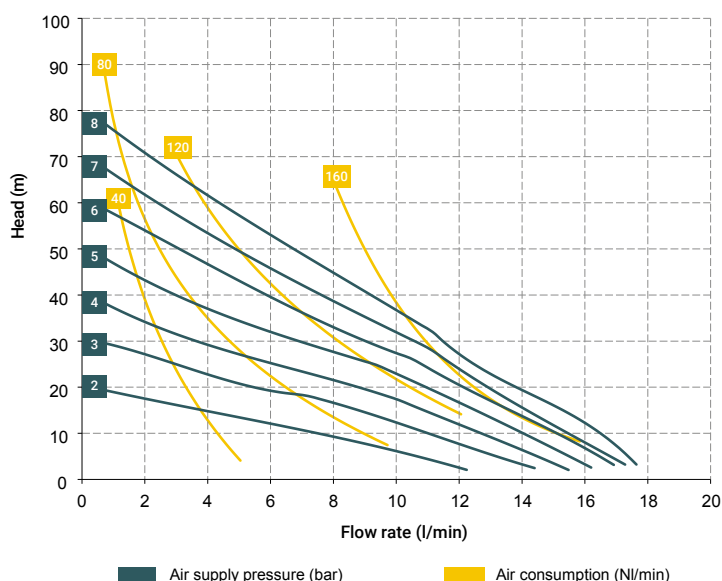
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

- Equaflux 51

(For the dampener materials refer to the relative technical sheet)

### Foot valve:

VALVFN000038APP (POLYPROPYLENE)

VALVFN000038AFV (PVDF)

- Air regulation kit W1000-8-G
- Batch controller
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

KITFLANG-B015 (AISI 316) available on request

KITFLANG-B015 (ALUMINIUM) available on request

KITFLANG-B015 (POLYPROPYLENE)

KITFLANG-B015F (PVDF)

### T15 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- Aluminium
- DUPLEX/S.DUPLEX

### Diaphragm materials:

- PTFE
- NBR

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- PPS
- Natural ECTFE
- AISI 316

### Balls materials:

- PTFE
- AISI 316
- EPDM

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

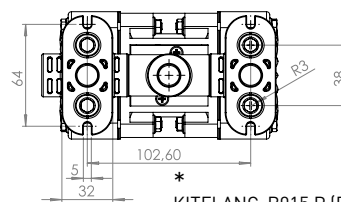
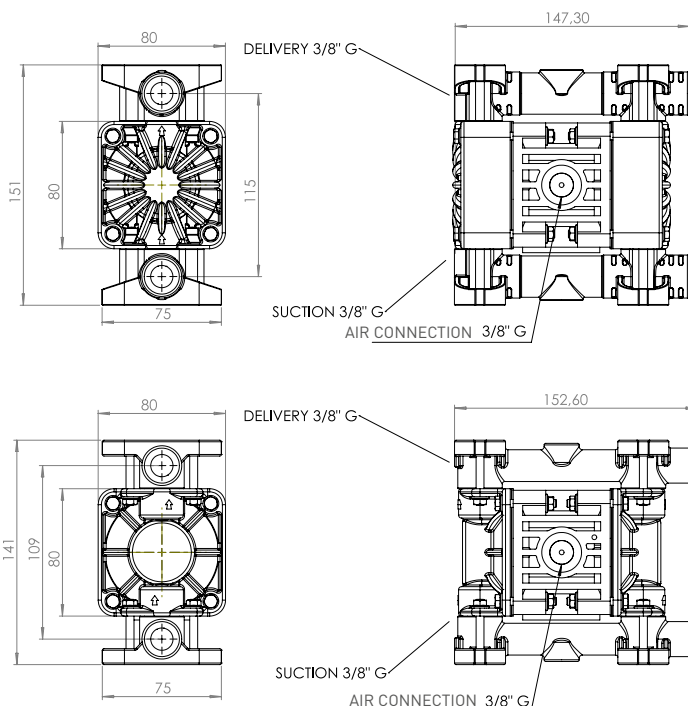
### Package:

cardboard box - cm 14 x 20 x 20 - weight 0.4 Kg

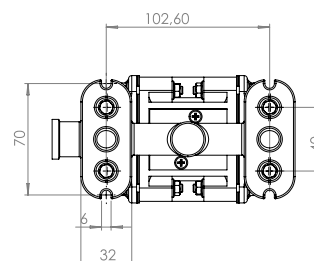
(the weight refers to the package only, without the pump)

PP / PVDF / ALU

AISI



KITFLANG-B015 P (Polipropilene)  
KITFLANG-B015 F (PVDF)  
KITFLANG-B015 A (AISI 316, su richiesta)  
KITFLANG-B015 AL (Alluminio, su richiesta)





# BOXER 15

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

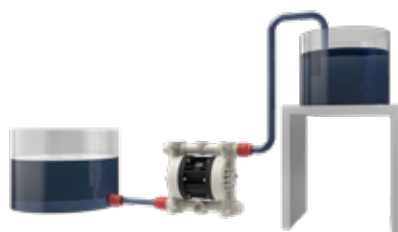
Z = version for standard IECEx

(both only on request)

SELF-PRIMING USE



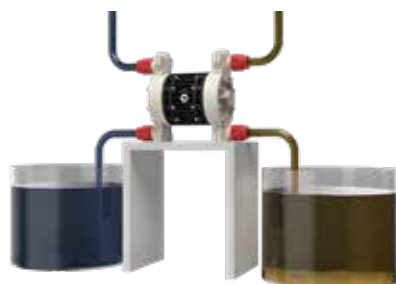
UNDER HEAD USE



DRUM TRANSFER



SPLIT SUCTION and DELIVERY



SPLIT SUCTION



## MAIN APPLICATION SECTORS



WATER AND SLUDGE TREATMENT



PACKING, GLUE, PAPER AND PAPER MILLS



CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY



GALVANIC AND ELECTRONIC INDUSTRY



CHEMICAL INDUSTRY



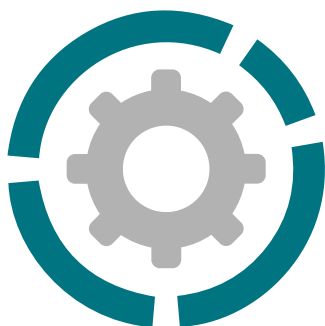
GRAPHIC INDUSTRY

# MICROBOXER

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



**DEBEM**  
MADE IN ITALY



|                                           |             |
|-------------------------------------------|-------------|
| Suction / delivery connections            | G 1/2" f(*) |
| Air fitting                               | G 1/4" f    |
| Max flow rate*                            | 35 l/min    |
| Max supply air pressure                   | 8 bar       |
| Max head*                                 | 80 m        |
| Max negative suction head - dry-running** | 4 m         |
| Max negative suction head - pump primed   | 9,5 m       |
| Max diameter of suspended solids          | 2 mm        |
| Noise level                               | 65 dB       |
| Volume per stroke                         | 30 cc       |

(\*) clamp or NPT available only on request

\*\* The value depends on the pump configuration.

CE



Product designed and constructed in Italy

**PATENTED** stall-prevention pneumatic circuit

Operates with non-lubricated air

**SELF-PRIMING**

Dry operation

ATEX certification for ZONE 1 - ZONE 2

IECEx certification

Adjustable operating speed

Extremely versatile

Suitable for pumping liquids with high viscosity and demanding applications

Possibility of pumping fluids containing suspended solids

Possibility of suspended installation

Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP – PP+CF – PVDF

Suitable for continuous use

### Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



#### PP

#### Microboxer



##### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 168 mm |
| Width  | 165 mm |
| Depth  | 120 mm |



##### Construction materials (casing and manifolds) and net weight

|                                     |              |
|-------------------------------------|--------------|
| Polypropylene (with glass additive) | 1.6 Kg       |
|                                     | Max 3°C min. |
|                                     | 65°C max     |

|                                                 |              |
|-------------------------------------------------|--------------|
| Conductive polypropylene (with carbon additive) | 1.6 Kg       |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



##### Construction materials (casing and manifolds) available on request

POMc

UHMWPE



#### PVDF

#### Microboxer



##### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 168 mm |
| Width  | 165 mm |
| Depth  | 120 mm |



##### Construction materials (casing and manifolds) and net weight

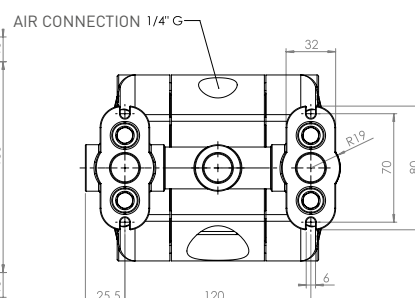
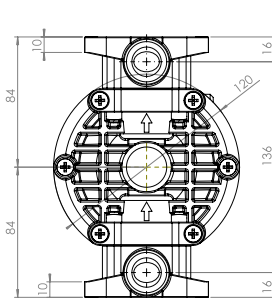
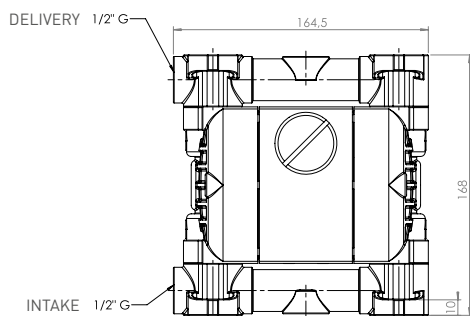
|      |              |
|------|--------------|
| PVDF | 1.98 Kg      |
|      | Max 3°C min. |
|      | 95°C max     |



##### Construction materials (casing and manifolds) available on request

POMc

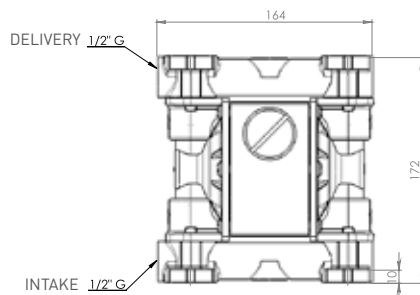
UHMWPE



### Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



#### ALU

Microboxer

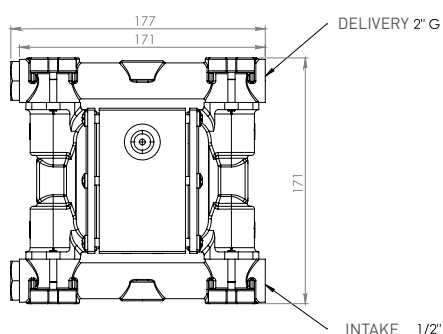
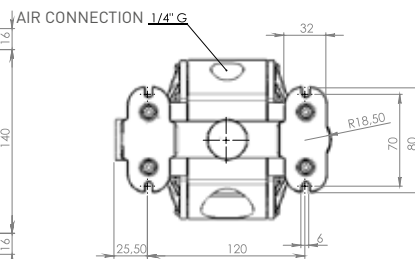
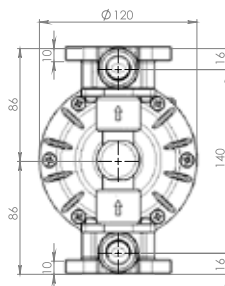
##### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 172 mm |
| Width  | 164 mm |
| Depth  | 120 mm |



##### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 2.1 Kg       |
|     | Max 3°C min. |
|     | 95°C max     |



#### AISI 316 L

Microboxer

##### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 171 mm |
| Width  | 177 mm |
| Depth  | 120 mm |



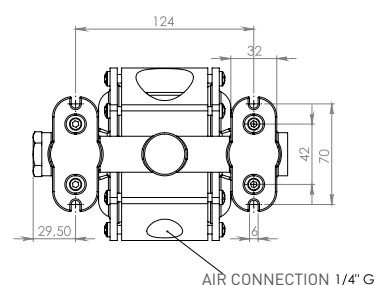
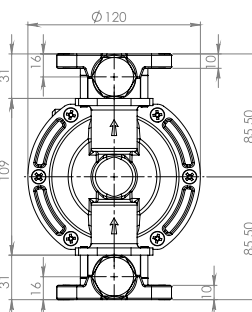
##### Construction materials (casing and manifolds) and net weight

|            |              |
|------------|--------------|
| AISI 316 L | 3.75 Kg      |
|            | Max 3°C min. |
|            | 95°C max     |



##### Construction materials (casing and manifolds) available on request

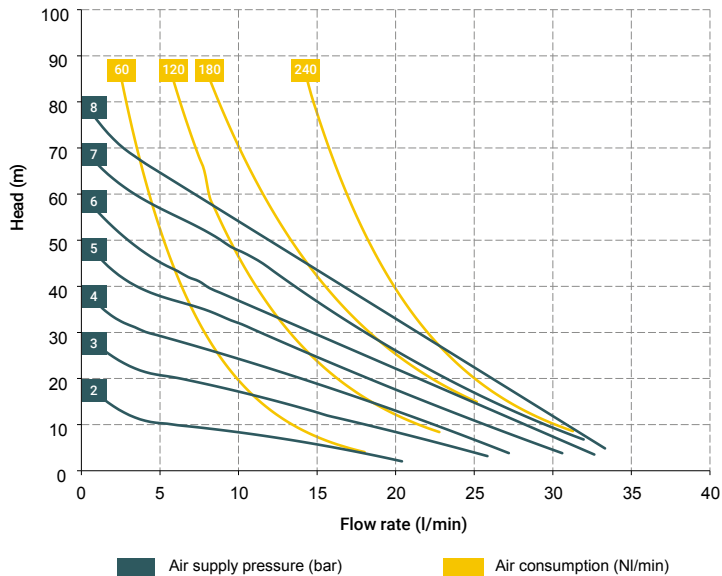
DUPLEX/W.DUPLEX



### Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

#### Accessories:

- **Equaflux 51**  
(For the dampener materials refer to the relative technical sheet)

#### Foot valve:

VALVFN000012APP (POLYPROPYLENE)  
VALVFN000012AFV (PVDF)

- Air regulation kit W1000-8-G
- Batch controller
- Cycle counter
- Reinforcement rings

#### Flange kit (DIN flange - ANSI available on request):

KITFLANG-MINIP (POLYPROPYLENE)  
KITFLANG-MINIF (PVDF)  
KITFLANG-MINIA (AISI 316)  
KITFLANG-B050AL (ALUMINIUM)

#### MONOSTABLE distributor material

(Distributor + shuttle) - (pneumatic circuit)

- POM

#### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- Aluminium
- AISI 316
- DUPLEX/S.DUPLEX

#### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

#### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- PPS
- Natural ECTFE
- AISI 316

#### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

#### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

#### Package:

cardboard box - cm 14 x 20 x 20 - weight 0.4 Kg  
(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

### MAIN APPLICATION SECTORS



PRODUCTION AND STORAGE  
OF BIODIESEL



CHEMICAL INDUSTRY



PAINT INDUSTRY



GALVANIC AND ELECTRONIC  
INDUSTRY



GOLD PROCESSING  
INDUSTRY



GRAPHIC INDUSTRY

### Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | B50-                                                                                                                                                                                                                                                                                                                                           | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



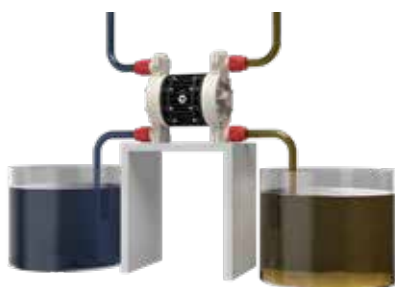
UNDER HEAD USE



DRUM TRANSFER



SPLIT SUCTION and DELIVERY



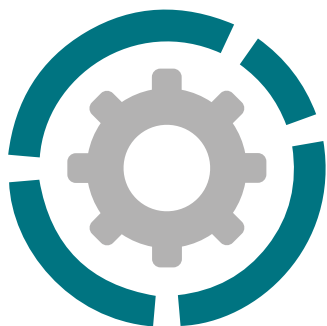
SPLIT SUCTION





# BOXER 50 / MINIBOXER

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



|                                           |                    |
|-------------------------------------------|--------------------|
| Suction / delivery connections            | G 1/2" or DN 15(*) |
| Air fitting                               | G 3/8" f           |
| Max flow rate*                            | 60 l/min           |
| Max supply air pressure                   | 8 bar              |
| Max head*                                 | 80 m               |
| Max negative suction head - dry-running** | 4 m                |
| Max negative suction head - pump primed   | 9,5 m              |
| Max diameter of suspended solids          | 4 mm               |
| Noise level                               | 70 dB              |
| Volume per stroke                         | 67 cc              |

(\*) NPT fittings on request

\*\* The value depends on the pump configuration.

CE



Product designed and constructed in Italy

**PATENTED** stall-prevention pneumatic circuit

Operates with non-lubricated air

**SELF-PRIMING**

Dry operation

ATEX certification for ZONE 1 - ZONE 2

IECEx certification

Adjustable operating speed

Extremely versatile

Suitable for pumping liquids with high viscosity and demanding applications

Possibility of pumping fluids containing suspended solids

Possibility of suspended installation

Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP - PP+CF - PVDF

Suitable for continuous use



# BOXER 50 / MINIBOXER

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



PP

Boxer 50



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 241 mm |
| Width  | 247 mm |
| Depth  | 153 mm |



### Construction materials (casing and manifolds) and net weight

|                                     |              |
|-------------------------------------|--------------|
| Polypropylene (with glass additive) | 3.75 Kg      |
|                                     | Max 3°C min. |
|                                     | 65°C max     |

|                                                 |              |
|-------------------------------------------------|--------------|
| Conductive polypropylene (with carbon additive) | 3.75 Kg      |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



### Construction materials (casing and manifolds) available on request

|        |
|--------|
| POMc   |
| UHMWPE |



PVDF

Boxer 50



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 241 mm |
| Width  | 247 mm |
| Depth  | 153 mm |



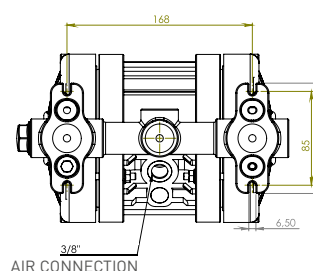
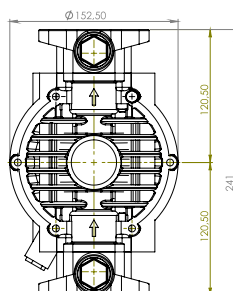
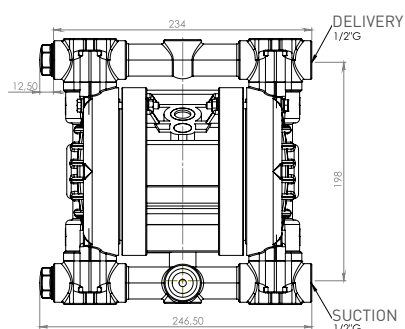
### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PVDF | 4.25 Kg      |
|      | Max 3°C min. |
|      | 95°C max     |



### Construction materials (casing and manifolds) available on request

|        |
|--------|
| POMc   |
| UHMWPE |



# BOXER 50 / MINIBOXER

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### ALU

Boxer 50



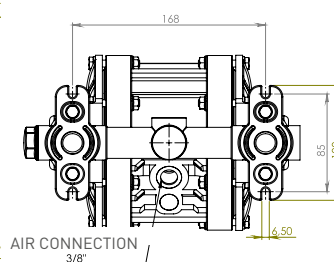
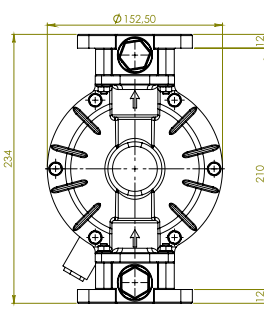
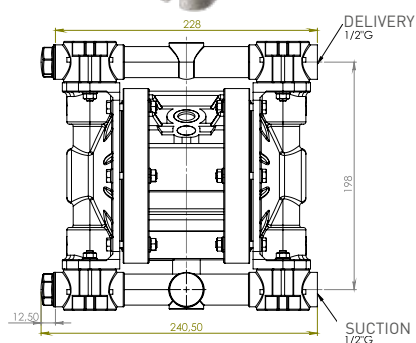
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 234 mm |
| Width  | 241 mm |
| Depth  | 153 mm |



#### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 4.07 Kg      |
|     | Max 3°C min. |
|     | 95°C max     |



### MINIBOXER

### AISI 316 L



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 232 mm |
| Width  | 230 mm |
| Depth  | 153 mm |



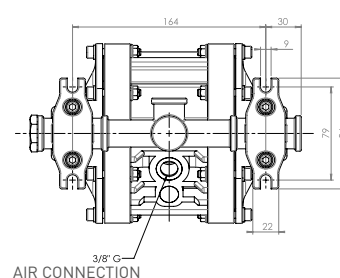
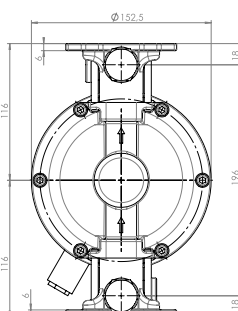
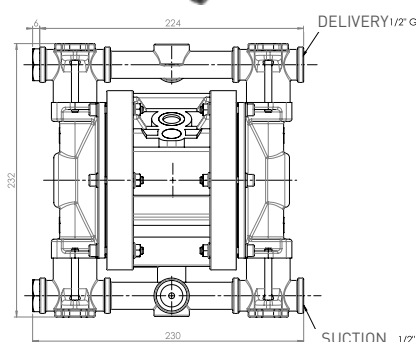
#### Construction materials (casing and manifolds) and net weight

|            |              |
|------------|--------------|
| AISI 316 L | 6.3 Kg       |
|            | Max 3°C min. |
|            | 95°C max     |



#### Construction materials (casing and manifolds) available on request

DUPLEX/W.DUPLEX



# BOXER 50 / MINIBOXER

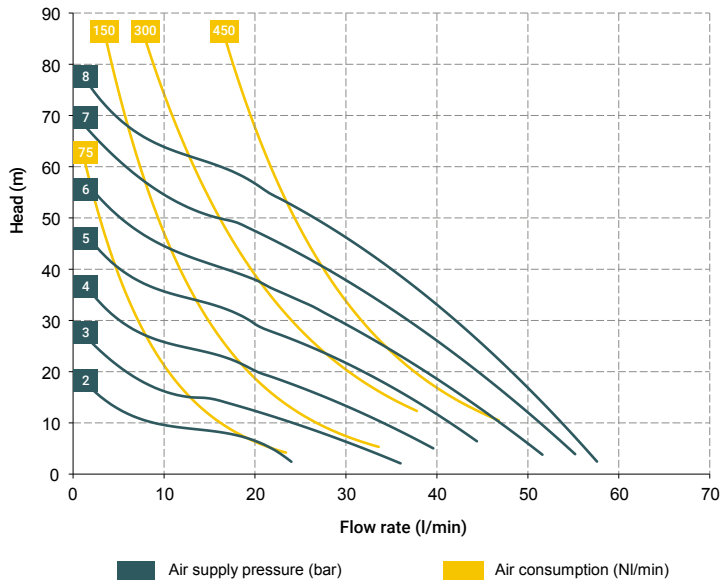
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

- Equaflex 100

(For the dampener materials refer to the relative technical sheet)

### Foot valve:

VALVFN000012APP (POLYPROPYLENE)  
VALVFN000012AFV (PVDF)

- Air regulation kit W1000-8-G
- Batch controller
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

KITFLANG-MINIP (POLYPROPYLENE)  
KITFLANG-MINIF (PVDF)  
KITFLANG-MINIA (AISI316)  
KITFLANG-B050AL (ALUMINIUM)

### T20 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- Aluminium
- DUPLEX/S.DUPLEX

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- PPS
- Natural ECTFE
- AISI 316

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

cardboard box – cm 23 x 31 x 33 – weight 0.8 Kg  
(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS



AUTOMOTIVE



PRODUCTION AND STORAGE  
OF BIODIESEL



PAINT INDUSTRY



CHEMICAL INDUSTRY



OIL & GAS



GRAPHIC INDUSTRY



CERAMIC, STONE, MARBLE  
GLASS AND MINING  
INDUSTRY



GALVANIC AND ELECTRONIC  
INDUSTRY



GOLD PROCESSING INDUSTRY



MECHANICAL AND METAL-  
LURGIC INDUSTRY



PACKING, GLUE,  
PAPER AND PAPER MILLS



BOXER 50



MINIBOXER

# BOXER 50 / MINIBOXER

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



UNDER HEAD USE



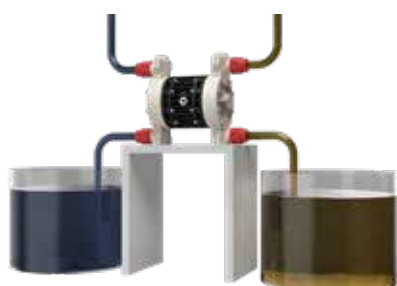
IMMERSED



DRUM TRANSFER



SPLIT SUCTION and DELIVERY

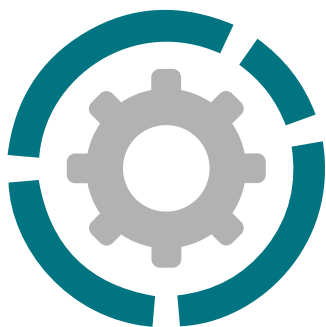


SPLIT SUCTION



# BOXER 81 / BOXER 90

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



(\*) NPT fittings on request

\*\* The value depends on the pump configuration.

|                                           |                  |
|-------------------------------------------|------------------|
| Suction / delivery connections            | G 1" or DN 25(*) |
| Air fitting                               | G 3/8" f         |
| Max flow rate*                            | 110 l/min        |
| Max supply air pressure                   | 8 bar            |
| Max head*                                 | 80 m             |
| Max negative suction head - dry-running** | 4 m              |
| Max negative suction head - pump primed   | 9,5 m            |
| Max diameter of suspended solids          | 4 mm             |
| Noise level                               | 70 dB            |
| Volume per stroke                         | 100 cc           |

CE



- Product designed and constructed in Italy
- PATENTED stall-prevention pneumatic circuit
- Operates with non-lubricated air
- SELF-PRIMING
- Dry operation
- ATEX certification for ZONE 1 - ZONE 2
- IECEx certification
- Adjustable operating speed
- Extremely versatile
- Suitable for pumping liquids with high viscosity and demanding applications
- Possibility of pumping fluids containing suspended solids
- Possibility of suspended installation
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP - PP+CF - PVDF
- Suitable for continuous use

# BOXER 81 / BOXER 90

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



PP

Boxer 81



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 274 mm |
| Width  | 308 mm |
| Depth  | 170 mm |



### Construction materials (casing and manifolds) and net weight

|                                                 |                          |
|-------------------------------------------------|--------------------------|
| Polypropylene (with glass additive)             | 5 Kg                     |
|                                                 | Max 3°C min.<br>65°C max |
| Conductive polypropylene (with carbon additive) | 5 Kg                     |
|                                                 | Max 3°C min.<br>65°C max |



### Construction materials (casing and manifolds) available on request

POMc

UHMWPE



PVDF

Boxer 81



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 274 mm |
| Width  | 308 mm |
| Depth  | 170 mm |



### Construction materials (casing and manifolds) and net weight

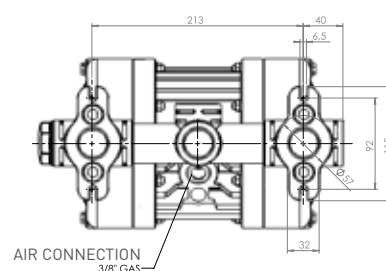
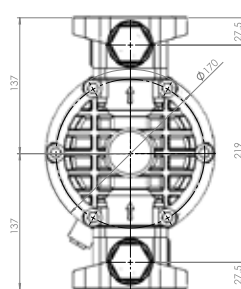
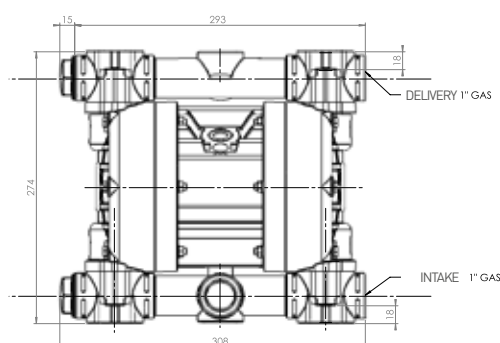
|      |                          |
|------|--------------------------|
| PVDF | 6 Kg                     |
|      | Max 3°C min.<br>95°C max |



### Construction materials (casing and manifolds) available on request

POMc

UHMWPE





# BOXER 81 / BOXER 90

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### Electropolished AISI 316

Boxer 81



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 275 mm |
| Width  | 305 mm |
| Depth  | 170 mm |



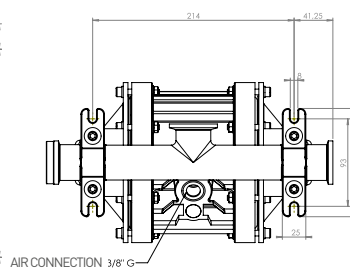
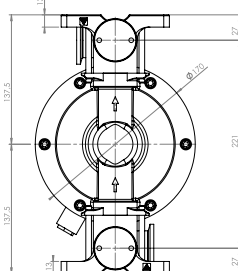
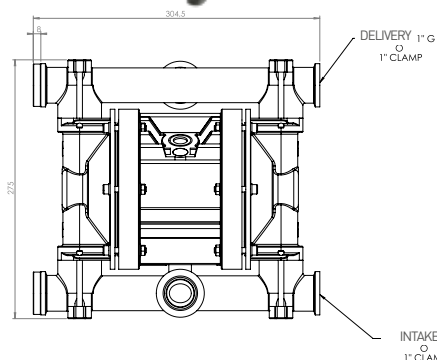
#### Construction materials (casing and manifolds) and net weight

|                          |              |
|--------------------------|--------------|
| Electropolished AISI 316 | 10.6 Kg      |
|                          | Max 3°C min. |
|                          | 95°C max     |



#### Construction materials (casing and manifolds) available on request

POMc  
UHMWPE



### BOXER 90

### ALU



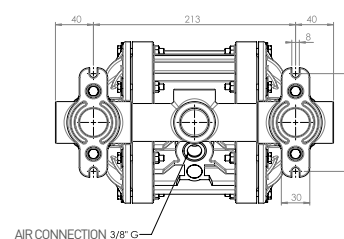
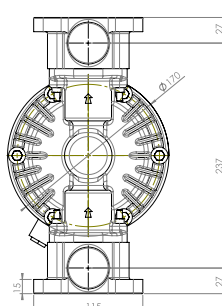
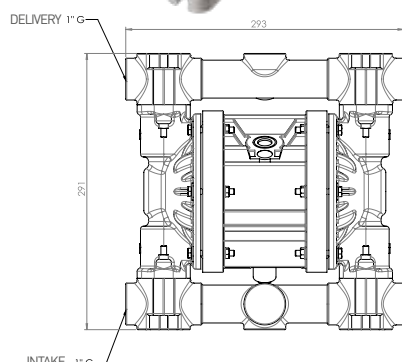
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 291 mm |
| Width  | 293 mm |
| Depth  | 170 mm |



#### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 7 Kg         |
|     | Max 3°C min. |
|     | 95°C max     |





# BOXER 81 / BOXER 90

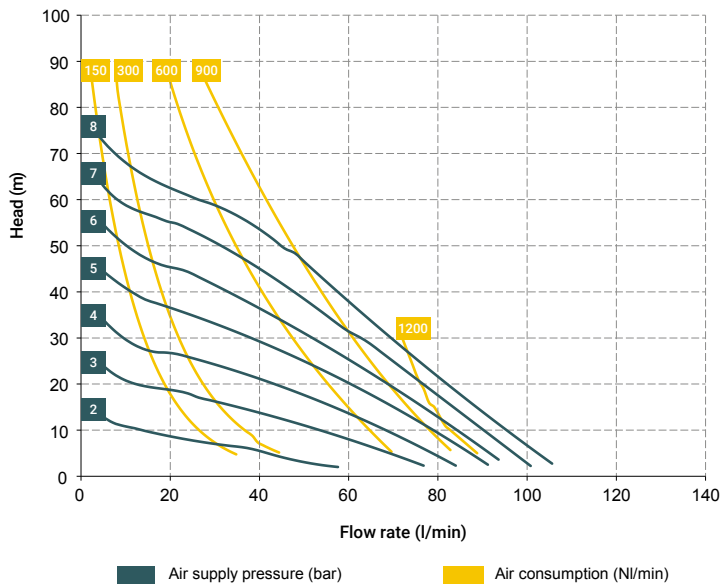
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

#### • Equaflux 100

(For the dampener materials refer to the relative technical sheet)

#### • Truck model 01

### Foot valve:

VALVFN0000100APP (POLYPROPYLENE)

VALVFN0000100AFV (PVDF)

- Air regulation kit W3000-10-G
- Batch controller
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

KITFLANG-B081P (POLYPROPYLENE)

KITFLANG-B081F (PVDF)

KITFLANG-B080A (AISI 316)

KITFLANG-B081AL (ALUMINIUM)

### T20 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- Aisi 316
- Aluminum
- DUPLEX/S.DUPLEX

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- PPS
- AISI 316

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

cardboard box – cm 24 x 39 x 37 – weight 1.2 Kg  
(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS



AUTOMOTIVE



PRODUCTION AND STORAGE  
OF BIODIESEL



WATER AND SLUDGE  
TREATMENT



CHEMICAL  
INDUSTRY



OIL & GAS



GRAPHIC INDUSTRY



CERAMIC, STONE, MARBLE  
GLASS AND MINING  
INDUSTRY



PAINT  
INDUSTRY



GOLD PROCESSING  
INDUSTRY



PACKING, GLUE,  
PAPER AND PAPER MILLS



TEXTILE AND LEATHER  
INDUSTRY



MECHANICAL AND METAL-  
LURGIC INDUSTRY



GALVANIC AND ELECTRONIC  
INDUSTRY

# BOXER 81 / BOXER 90

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



UNDER HEAD USE



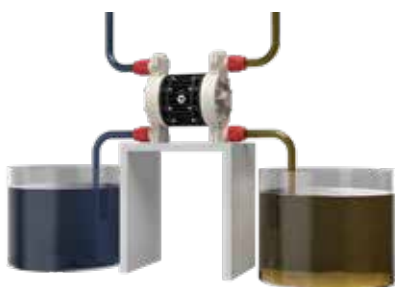
IMMERSED



DRUM TRANSFER



SPLIT SUCTION and DELIVERY



SPLIT SUCTION

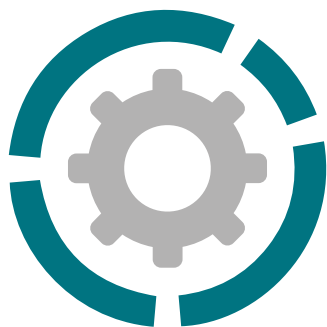


# BOXER 100

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



**DEBEM**  
MADE IN ITALY



|                                           |                  |
|-------------------------------------------|------------------|
| Suction / delivery connections            | G 1" or DN 25(*) |
| Air fitting                               | G 3/8" f         |
| Max flow rate*                            | 160 l/min        |
| Max supply air pressure                   | 8 bar            |
| Max head*                                 | 80 m             |
| Max negative suction head - dry-running** | 4 m              |
| Max negative suction head - pump primed   | 9,5 m            |
| Max diameter of suspended solids          | 4 mm             |
| Noise level                               | 75 dB            |
| Volume per stroke                         | 222 cc           |

(\*) NPT fittings on request

\*\* The value depends on the pump configuration.



Product designed and constructed in Italy

PATENTED stall-prevention pneumatic circuit

Operates with non-lubricated air

SELF-PRIMING

Dry operation

ATEX certification for ZONE 1 - ZONE 2

IECEx certification

Adjustable operating speed

Extremely versatile

Suitable for pumping liquids with high viscosity and demanding applications

Possibility of pumping fluids containing suspended solids

Possibility of suspended installation

Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP - PP+CF - PVDF

Suitable for continuous use

# BOXER 100

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### PP

Boxer 100



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 325 mm |
| Width  | 329 mm |
| Depth  | 202 mm |



#### Construction materials (casing and manifolds) and net weight

|                                     |              |
|-------------------------------------|--------------|
| Polypropylene (with glass additive) | 7.6 Kg       |
|                                     | Max 3°C min. |
|                                     | 65°C max     |

|                                                 |              |
|-------------------------------------------------|--------------|
| Conductive polypropylene (with carbon additive) | 7.6 Kg       |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



#### Construction materials (casing and manifolds) available on request

|        |
|--------|
| POMc   |
| UHMWPE |



### PVDF

Boxer 100



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 325 mm |
| Width  | 329 mm |
| Depth  | 202 mm |



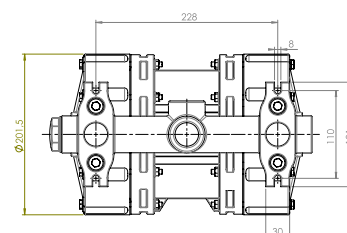
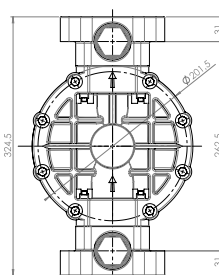
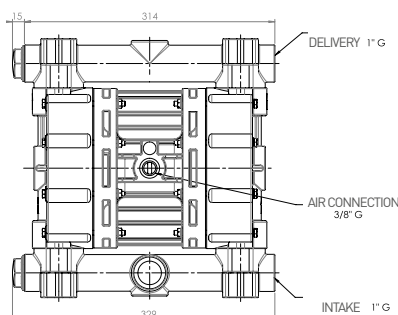
#### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PVDF | 9.6 Kg       |
|      | Max 3°C min. |
|      | 95°C max     |



#### Construction materials (casing and manifolds) available on request

|        |
|--------|
| POMc   |
| UHMWPE |



# BOXER 100

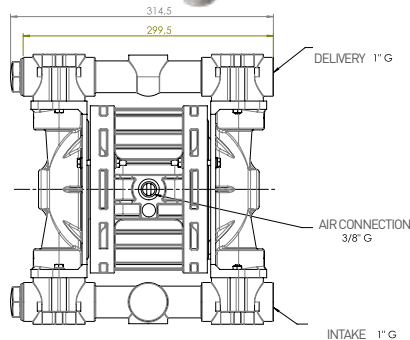
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### ALU

Boxer 100

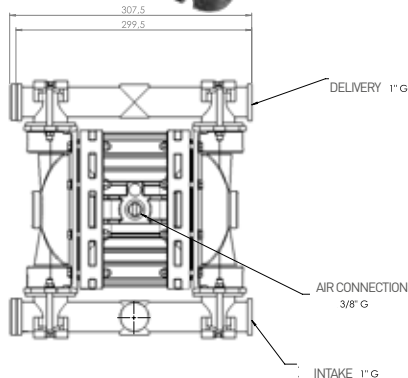
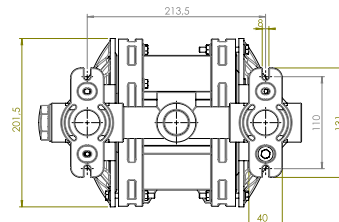
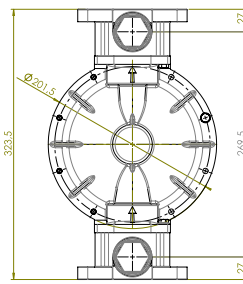
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 324 mm |
| Width  | 315 mm |
| Depth  | 202 mm |



#### Construction materials (casing and manifolds) and net weight

|            |              |
|------------|--------------|
| <b>ALU</b> | 8.5 Kg       |
|            | Max 3°C min. |
|            | 95°C max     |



### Electropolished AISI 316

Boxer 100

#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 327 mm |
| Width  | 308 mm |
| Depth  | 202 mm |



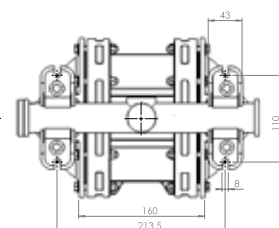
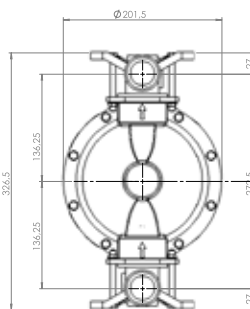
#### Construction materials (casing and manifolds) and net weight

|                                 |              |
|---------------------------------|--------------|
| <b>Electropolished AISI 316</b> | 11.7 Kg      |
|                                 | Max 3°C min. |
|                                 | 95°C max     |



#### Construction materials (casing and manifolds) available on request

**DUPLEX/W.DUPLEX**



# BOXER 100

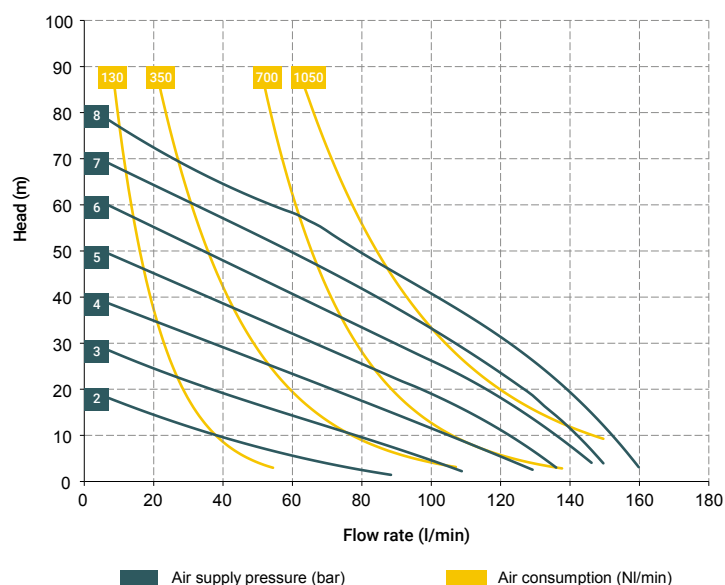
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

- Equaflux 200
- (For the dampener materials refer to the relative technical sheet)
- Truck model 01

### Foot valve:

VALVFN0000100APP (POLYPROPYLENE)  
VALVFN0000100AFV (PVDF)

- Air regulation kit W3000-10-G
- Batch controller
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

KITFLANG-B100P (POLYPROPYLENE)  
KITFLANG-B100F (PVDF)  
KITFLANG-B100A (AISI 316)  
KITFLANG-B100AL (ALUMINIUM)

### T20 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- Aluminium
- Aisi 316
- DUPLEX/S.DUPLEX

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- Aluminium
- Natural ECTFE
- AISI 316

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

cardboard box - cm 27 x 39 x 41 - weight 1.4 Kg  
(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS



AUTOMOTIVE



PRODUCTION AND STORAGE  
OF BIODIESEL



WATER AND SLUDGE  
TREATMENT



PHARMACEUTICAL  
INDUSTRY



OIL & GAS



GRAPHIC INDUSTRY



CERAMIC, STONE, MARBLE  
GLASS AND MINING  
INDUSTRY



PAINT INDUSTRY



PACKING, GLUE, GOLD PROCESSING INDUSTRY  
PAPER AND PAPER MILLS



TEXTILE AND LEATHER  
INDUSTRY



MECHANICAL AND METAL-  
LURGIC INDUSTRY



GALVANIC AND ELECTRONIC  
INDUSTRY



# BOXER 100

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



UNDER HEAD USE



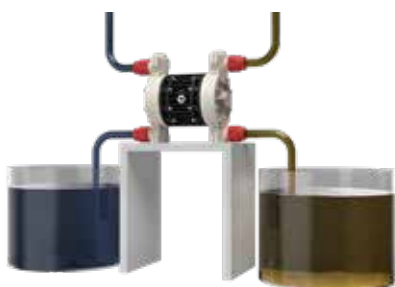
IMMERSED



DRUM TRANSFER



SPLIT SUCTION and DELIVERY



SPLIT SUCTION



# BOXER FPC 100

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



Suction / delivery connections

Air fitting

Max flow rate

Max supply air pressure

Max head

Max negative suction head - dry-running

Max negative suction head - pump primed

Max diameter of suspended solids

Noise level

Volume per stroke

G 1" flanged ANSI - DN 25

G 3/8" f

130 l/min

8 bar

80 m

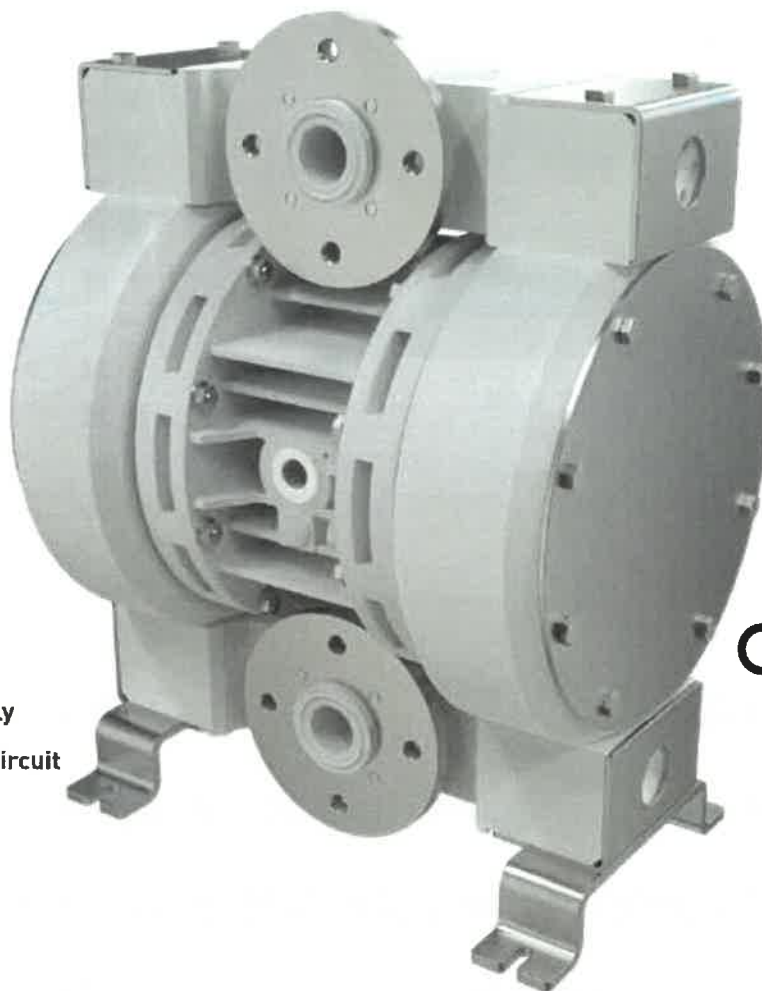
4 m

9,5 m

4 mm

75 dB

250 cc



- Product designed and constructed in Italy
- PATENTED stall-prevention pneumatic circuit
- Operates with non-lubricated air
- SELF-PRIMING
- Dry operation
- Adjustable operating speed
- Extremely versatile
- Suitable for pumping liquids with high viscosity and demanding applications
- Possibility of pumping fluids containing suspended solids
- LONG LIFE profile diaphragms for greater resistance and longer life
- Suitable for continuous use
- Pump made from a solid piece of PTFE
- Non-deformable structure in AISI 316 stainless steel

# BOXER FPC 100

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



### MAIN APPLICATION SECTORS



#### Package:

**wooden crate – cm 39 x 31 x 56 – weight 10 Kg**  
(the weight refers to the package only, without the pump)

## PTFE

FPC 100



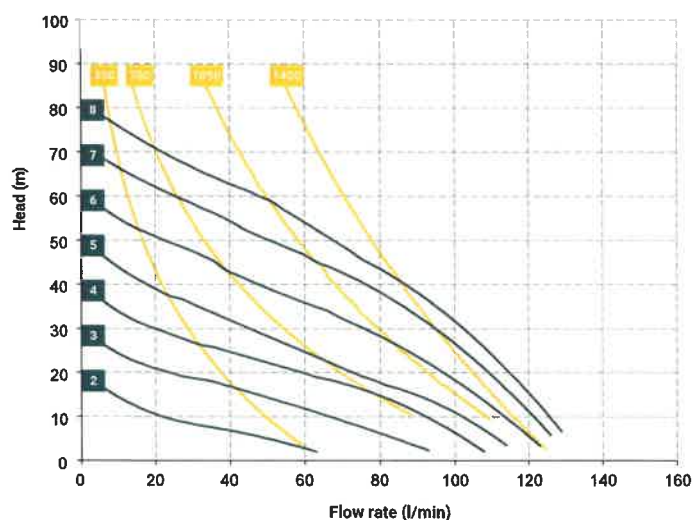
### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 300 mm |
| Width  | 230 mm |
| Depth  | 360 mm |

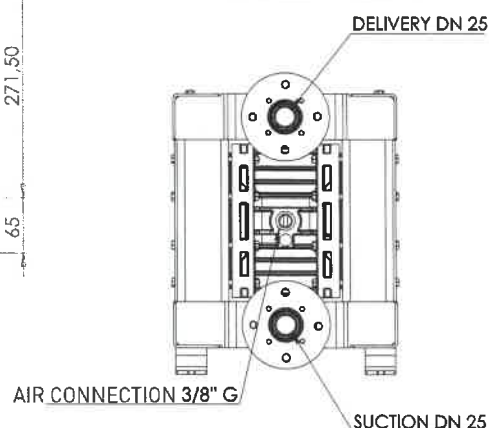
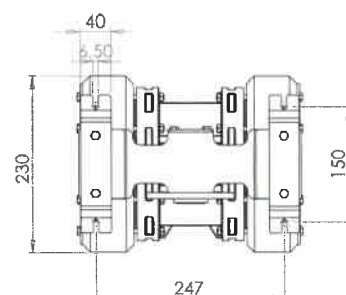
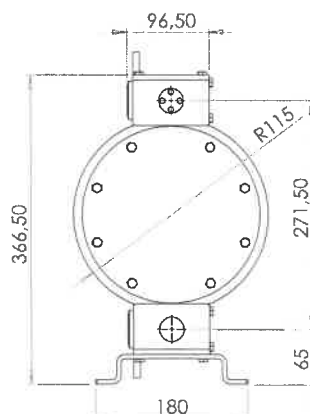
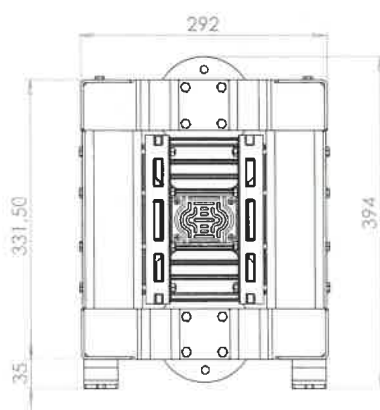


### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PTFE | 21.6 Kg      |
|      | Max 3°C min. |
|      | 95°C max     |



The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C.

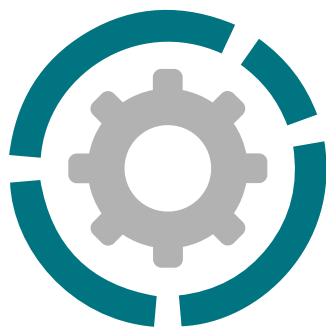


# BOXER 150

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



**DEBEM**  
MADE IN ITALY



|                                           |                      |
|-------------------------------------------|----------------------|
| Suction / delivery connections            | G 1"1/4 or DN 32 (*) |
| Air fitting                               | G 1/2" f             |
| Max flow rate*                            | 220 l/min            |
| Max supply air pressure                   | 8 bar                |
| Max head*                                 | 80 m                 |
| Max negative suction head - dry-running** | 4 m                  |
| Max negative suction head - pump primed   | 9,5 m                |
| Max diameter of suspended solids          | 5 mm                 |
| Noise level                               | 75 dB                |
| Volume per stroke                         | 340 cc               |

(\*) clamp or NPT available only on request

\*\* The value depends on the pump configuration.

CE



Product designed and constructed in Italy

**PATENTED** stall-prevention pneumatic circuit

Operates with non-lubricated air

**SELF-PRIMING**

Dry operation

ATEX certification for ZONE 1 - ZONE 2

IECEx certification

Adjustable operating speed

Extremely versatile

Suitable for pumping liquids with high viscosity and demanding applications

Possibility of pumping fluids containing suspended solids

Possibility of suspended installation

Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP - PP+CF - PVDF

Suitable for continuous use

# BOXER 150

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



PP

Boxer 150



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 386 mm |
| Width  | 399 mm |
| Depth  | 220 mm |



### Construction materials (casing and manifolds) and net weight

|                                     |              |
|-------------------------------------|--------------|
| Polypropylene (with glass additive) | 12 Kg        |
|                                     | Max 3°C min. |
|                                     | 65°C max     |

|                                                 |              |
|-------------------------------------------------|--------------|
| Conductive polypropylene (with carbon additive) | 12 Kg        |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



### Construction materials (casing and manifolds) available on request

POMc

UHMWPE



PVDF

Boxer 150



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 386 mm |
| Width  | 399 mm |
| Depth  | 220 mm |



### Construction materials (casing and manifolds) and net weight

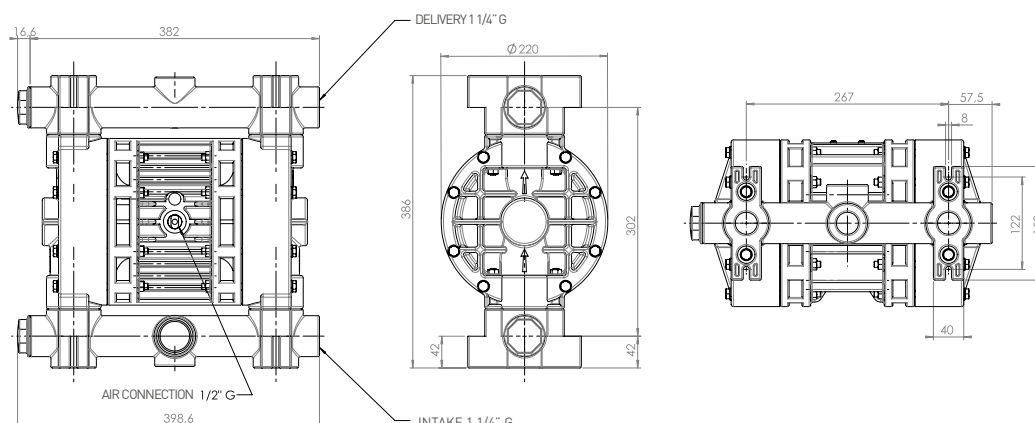
|      |              |
|------|--------------|
| PVDF | 14 Kg        |
|      | Max 3°C min. |
|      | 95°C max     |



### Construction materials (casing and manifolds) available on request

POMc

UHMWPE





# BOXER 150

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### ALU

Boxer 150



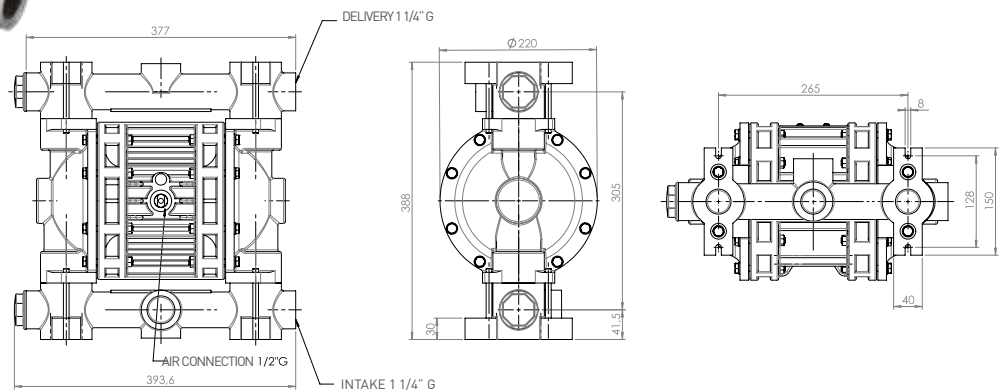
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 388 mm |
| Width  | 394 mm |
| Depth  | 220 mm |



#### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 15 Kg        |
|     | Max 3°C min. |
|     | 95°C max     |



### Electropolished AISI 316

Boxer 150



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 390 mm |
| Width  | 388 mm |
| Depth  | 220 mm |



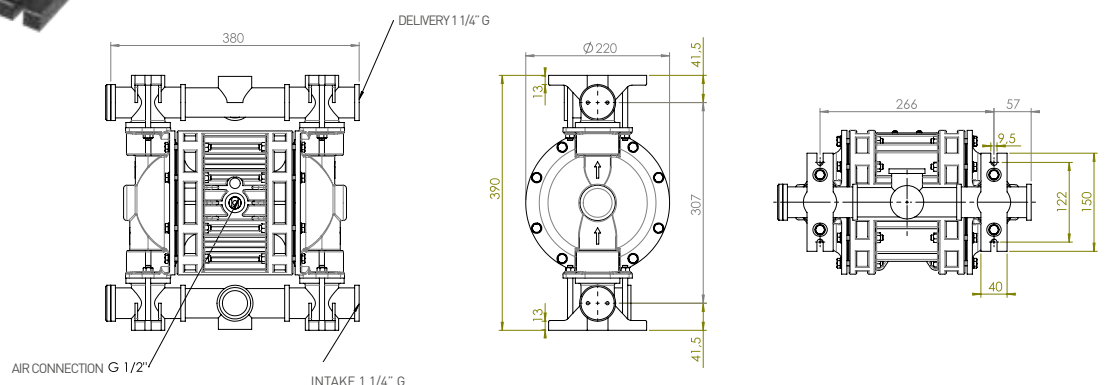
#### Construction materials (casing and manifolds) and net weight

|                          |              |
|--------------------------|--------------|
| Electropolished AISI 316 | 23 Kg        |
|                          | Max 3°C min. |
|                          | 95°C max     |



#### Construction materials (casing and manifolds) available on request

DUPLEX/W.DUPLEX





# BOXER 150

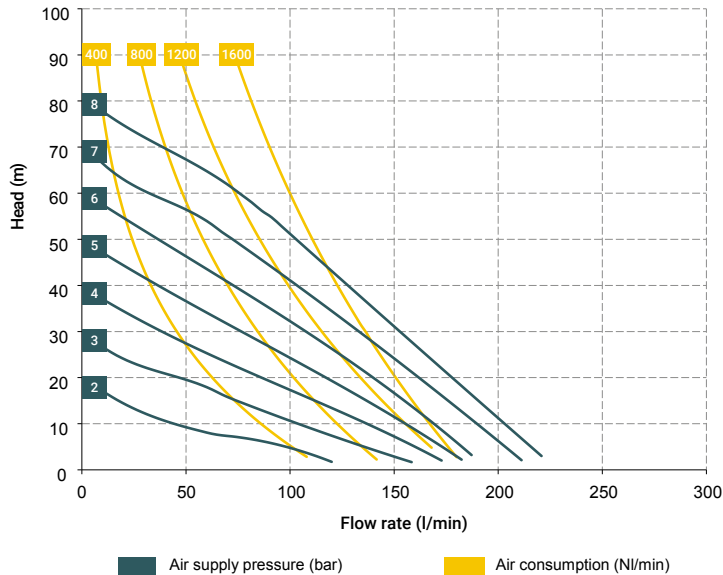
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

- Equaflex 200
- (For the dampener materials refer to the relative technical sheet)
- Truck model 01

### Foot valve:

VALVFN000114APP (POLYPROPYLENE)  
VALVFN000114AFV (PVDF)

- Air regulation kit W3000-10-G
- Batch controller
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

KITFLANG-B150P (POLYPROPYLENE)  
KITFLANG-B150F (PVDF)  
KITFLANG-B150A (AISI 316)  
KITFLANG-B150AL (ALUMINIUM)

### T30 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- Aluminium
- AISI 316
- DUPLEX/S.DUPLEX

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- Aluminium
- Natural ECTFE
- AISI 316

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

cardboard box - cm 29 x 48 x 47 - weight 2 Kg  
(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS



AUTOMOTIVE



PRODUCTION AND STORAGE  
OF BIODIESEL



WATER AND SLUDGE  
TREATMENT



GRAPHIC INDUSTRY



CERAMIC, STONE, MARBLE  
GLASS AND MINING  
INDUSTRY



PAINT INDUSTRY



CHEMICAL INDUSTRY



PACKING, GLUE,  
PAPER AND PAPER MILLS



OIL & GAS



MECHANICAL AND METAL-  
LURGIC INDUSTRY



TEXTILE AND LEATHER  
INDUSTRY



GALVANIC AND ELECTRONIC  
INDUSTRY

# BOXER 150

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



UNDER HEAD USE



IMMERSED



DRUM TRANSFER



SPLIT SUCTION  
and DELIVERY

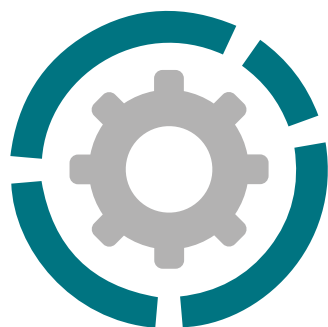


SPLIT SUCTION



# BOXER 251 / BOXER 252

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



(\*) NPT fittings on request

\*\* The value depends on the pump configuration.

|                                           |                         |
|-------------------------------------------|-------------------------|
| Suction / delivery connections            | G 1 1/2" f or DN 40 (*) |
| Air fitting                               | G 1/2" f                |
| Max flow rate*                            | 340 l/min               |
| Max supply air pressure                   | 8 bar                   |
| Max head*                                 | 80 m                    |
| Max negative suction head - dry-running** | 4 m                     |
| Max negative suction head - pump primed   | 9,5 m                   |
| Max diameter of suspended solids          | 6 mm                    |
| Noise level                               | 80 dB                   |
| Volume per stroke                         | 552 cc                  |

CE



- Product designed and constructed in Italy
- PATENTED stall-prevention pneumatic circuit
- Operates with non-lubricated air
- SELF-PRIMING
- Dry operation
- ATEX certification for ZONE 1 - ZONE 2
- IECEx certification
- Adjustable operating speed
- Extremely versatile
- Suitable for pumping liquids with high viscosity and demanding applications
- Possibility of pumping fluids containing suspended solids
- Possibility of suspended installation
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP - PP+CF - PVDF
- Suitable for continuous use

# BOXER 251 / BOXER 252

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



PP

Boxer 251



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 492 mm |
| Width  | 493 mm |
| Depth  | 254 mm |



### Construction materials (casing and manifolds) and net weight

|                                                 |              |
|-------------------------------------------------|--------------|
| Polypropylene (with glass additive)             | 17.5 Kg      |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |
| Conductive polypropylene (with carbon additive) | 20 Kg        |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



PVDF

Boxer 251



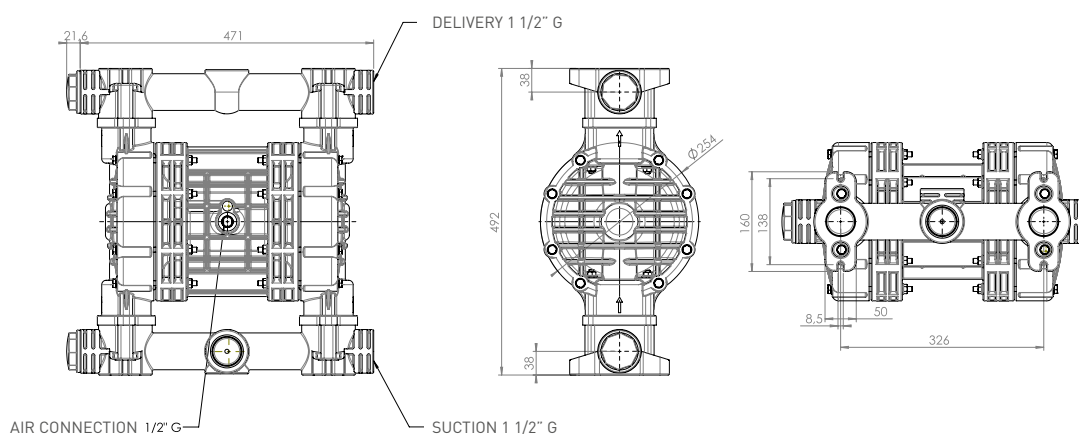
### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 492 mm |
| Width  | 493 mm |
| Depth  | 254 mm |



### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PVDF | 20 Kg        |
|      | Max 3°C min. |
|      | 95°C max     |



# BOXER 251 / BOXER 252

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### ALU

Boxer 251



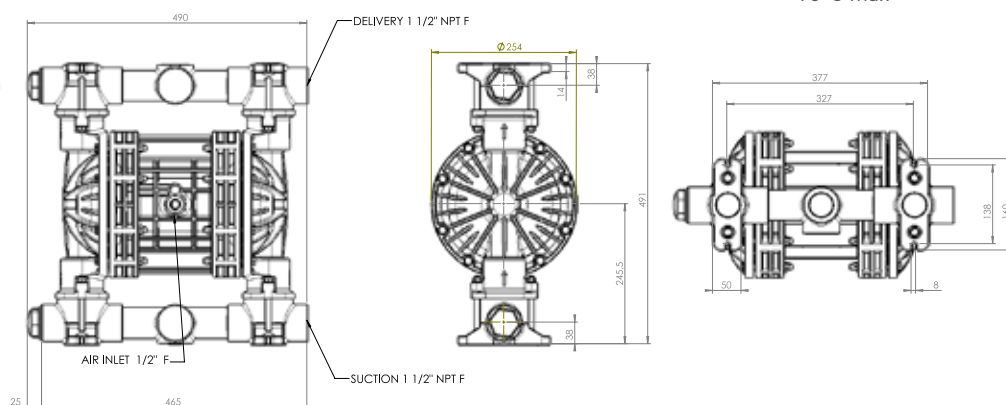
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 491 mm |
| Width  | 490 mm |
| Depth  | 254 mm |



#### Construction materials (casing and manifolds) and net weight

|            |              |
|------------|--------------|
| <b>ALU</b> | 19 Kg        |
|            | Max 3°C min. |
|            | 95°C max     |



### BOXER 252

### Electropolished AISI 316



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 538 mm |
| Width  | 417 mm |
| Depth  | 254 mm |



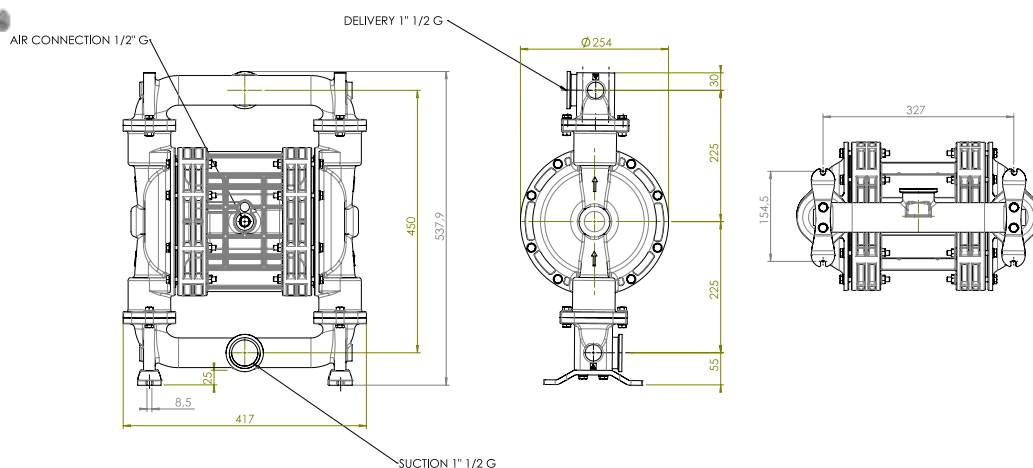
#### Construction materials (casing and manifolds) and net weight

|                                 |              |
|---------------------------------|--------------|
| <b>Electropolished AISI 316</b> | 26.2 Kg      |
|                                 | Max 3°C min. |



#### Construction materials (casing and manifolds) on request

**DUPLEX/S.DUPLEX**



# BOXER 251 / BOXER 252

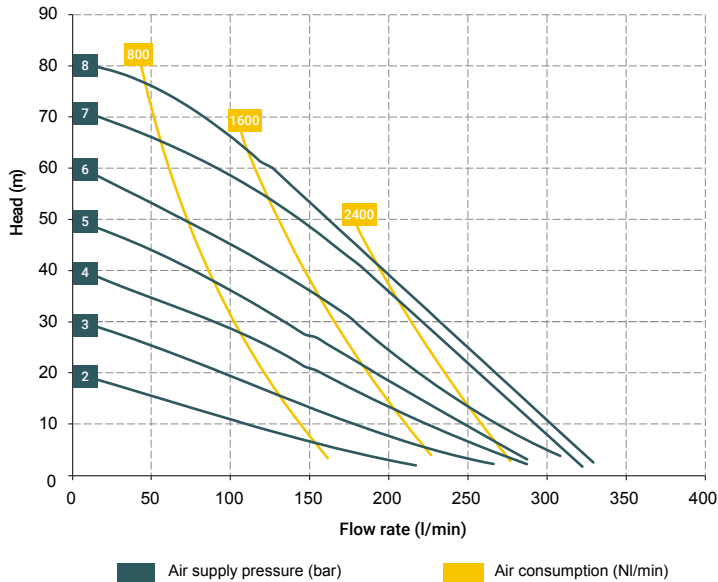
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

- Equaflux 200
- (For the dampener materials refer to the relative technical sheet)
- Truck model 02
- Basket strainer with fittings 1 1/2" f-f (PP or PVDF)

### Foot valve:

VALVFN000112APP (POLYPROPYLENE)  
VALVFN000112AFV (PVDF)

- Air regulation kit W3000-10-G
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

KITFLANG-B250P (POLYPROPYLENE)  
KITFLANG-B250F (PVDF)  
KITFLANG-B0251A (AISI 316)  
KITFLANG-B0251AL (ALUMINIUM)

### T30 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- DUPLEX/S.DUPLEX

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

cardboard box – cm 36 x 59 x 64 – weight 3 Kg  
(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS





# BOXER 251 / BOXER 252

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

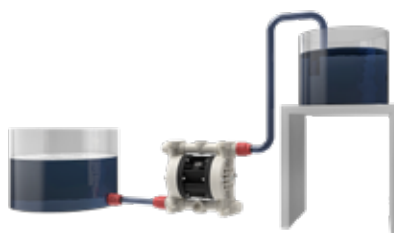
C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



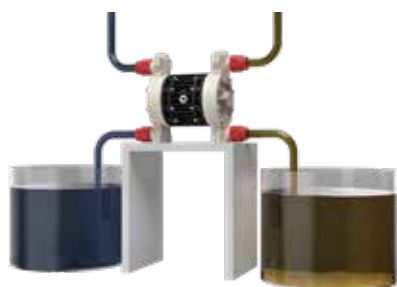
UNDER HEAD USE



IMMERSED



SPLIT SUCTION and DELIVERY



SPLIT SUCTION

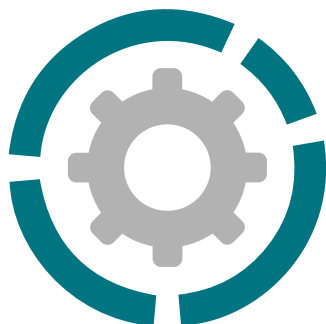


# BOXER 522 / BOXER 502

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



**DEBEM**  
— MADE IN ITALY —



|                                           |                     |
|-------------------------------------------|---------------------|
| Suction / delivery connections            | G 2" f or DN 50 (*) |
| Air fitting                               | G 1/2" f            |
| Max flow rate*                            | 600 l/min           |
| Max supply air pressure                   | 8 bar               |
| Max head*                                 | 80 m                |
| Max negative suction head - dry-running** | 5 m                 |
| Max negative suction head - pump primed   | 9,5 m               |
| Max diameter of suspended solids          | 8 mm                |
| Noise level                               | 80 dB               |
| Volume per stroke                         | 1825 cc             |

(\*) NPT fittings on request

\*\* The value depends on the pump configuration.

CE



Product designed and constructed in Italy

**PATENTED** stall-prevention pneumatic circuit

Operates with non-lubricated air

**SELF-PRIMING**

Dry operation

ATEX certification for ZONE 1 - ZONE 2

IECEX certification

Adjustable operating speed

Extremely versatile

Suitable for pumping liquids with high viscosity and demanding applications

Possibility of pumping fluids containing suspended solids

Possibility of suspended installation

Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP – PP+CF – PVDF

Suitable for continuous use

# BOXER 522 / BOXER 502

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



PP

Boxer 522



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 650 mm |
| Width  | 590 mm |
| Depth  | 404 mm |



### Construction materials (casing and manifolds) and net weight

|                                                 |              |
|-------------------------------------------------|--------------|
| Polypropylene (with glass additive)             | 38 Kg        |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |
| Conductive polypropylene (with carbon additive) | 34.5 Kg      |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



PVDF

Boxer 522



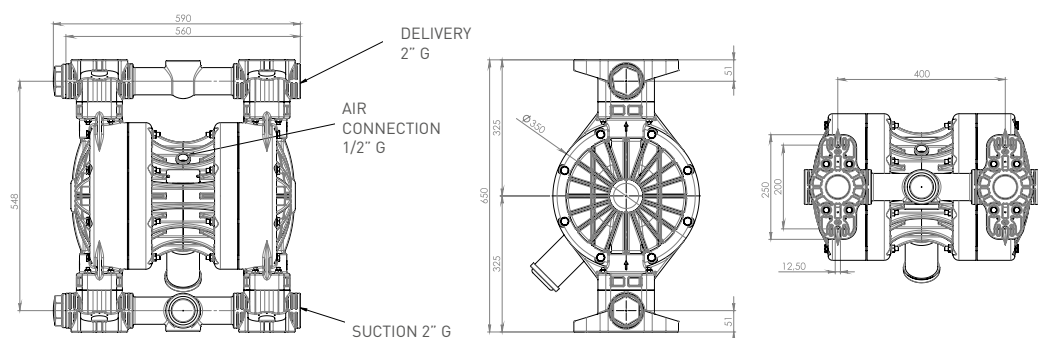
### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 650 mm |
| Width  | 590 mm |
| Depth  | 404 mm |



### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PVDF | 45 Kg        |
|      | Max 3°C min. |
|      | 95°C max     |



# BOXER 522 / BOXER 502

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

### BOXER 502

#### ALU



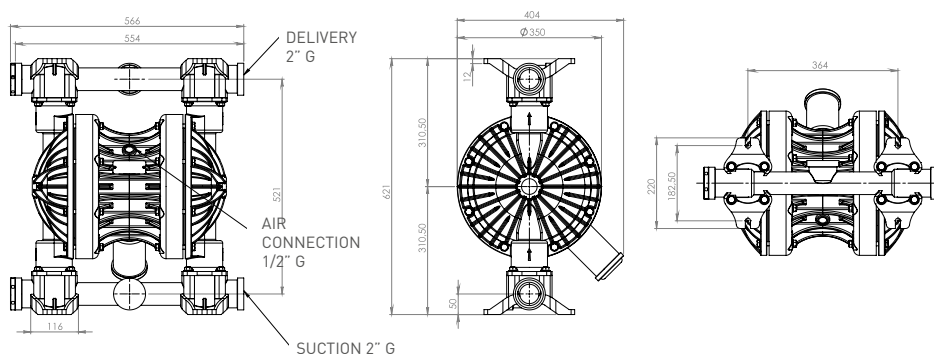
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 621 mm |
| Width  | 566 mm |
| Depth  | 404 mm |



#### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 37 Kg        |
|     | Max 3°C min. |
|     | 95°C max     |



### BOXER 502

#### Electropolished AISI 316



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 705 mm |
| Width  | 470 mm |
| Depth  | 404 mm |



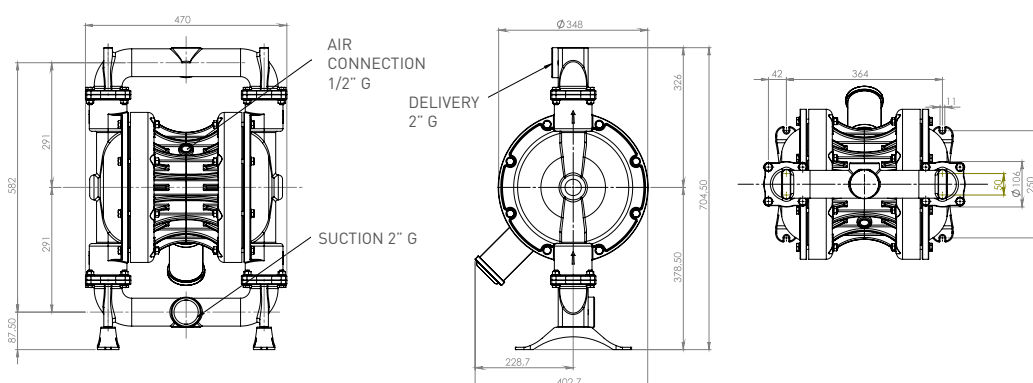
#### Construction materials (casing and manifolds) and net weight

|                          |              |
|--------------------------|--------------|
| Electropolished AISI 316 | 54 Kg        |
|                          | Max 3°C min. |
|                          | 95°C max     |



#### Construction materials (casing and manifolds) on request

DUPLEX/S.DUPLEX



# BOXER 522 / BOXER 502

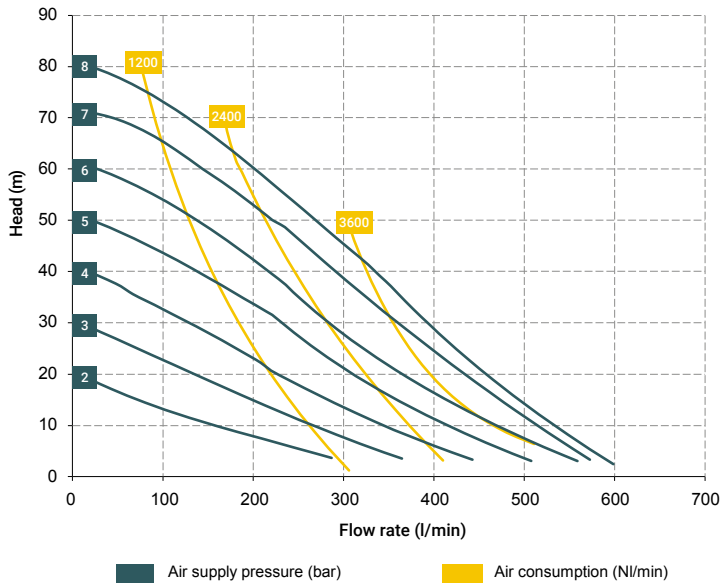
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

#### • Equaflux 302

(For the dampener materials refer to the relative technical sheet)

**Polypropylene or PVDF basket strainer with fittings G 2" f/f**

### Foot valve:

**VALVFN000200APP (POLYPROPYLENE)**

**VALVFN000200AFV (PVDF)**

- Air regulation kit W8000-20-G
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

**KITFLANG-B522P (POLYPROPYLENE)**

**KITFLANG-B522F (PVDF)**

**KITFLANG-B502A (AISI316)**

**KITFLANG-B502AL (ALUMINIUM)**

### T40 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

**wooden crate - cm 74 x 70 x 53 - weight 22 Kg (PP, PVDF, PP+CF, ALU)**

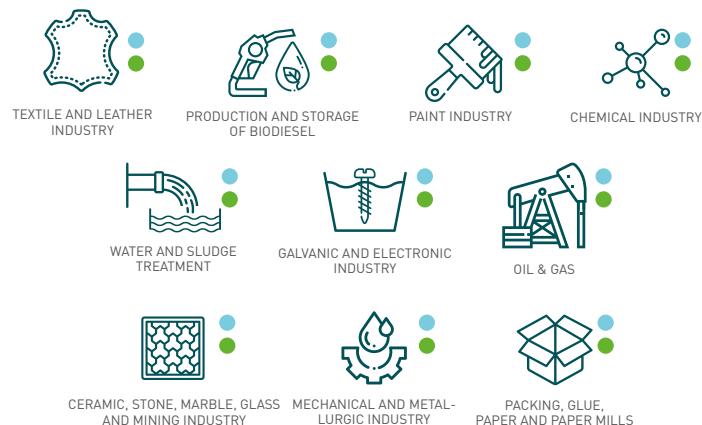
(the weight refers to the package only, without the pump)

**wooden crate - cm 79 x 55 x 52 - weight 25 Kg (AISI316)**

(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS



# BOXER 522 / BOXER 502

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

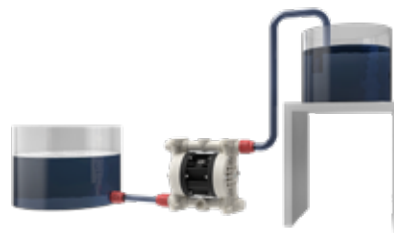
C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

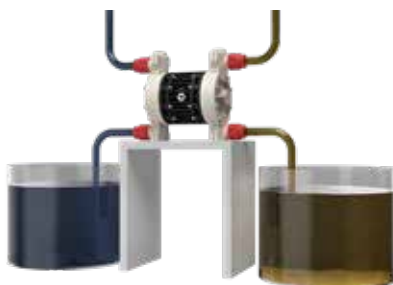
SELF-PRIMING USE



UNDER HEAD USE



SPLIT SUCTION and DELIVERY



SPLIT SUCTION



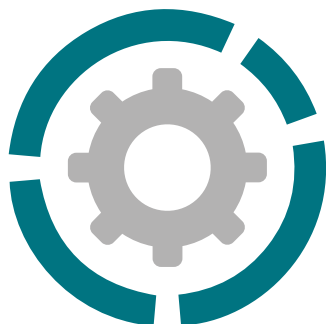


# BOXER 503

## AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



**DEBEM**  
MADE IN ITALY



|                                           |                     |
|-------------------------------------------|---------------------|
| Suction / delivery connections            | G 3" f or DN 80 (*) |
| Air fitting                               | G 3/4" f            |
| Max flow rate*                            | 800 l/min           |
| Max supply air pressure                   | 8 bar               |
| Max head*                                 | 80 m                |
| Max negative suction head - dry-running** | 4 m                 |
| Max negative suction head - pump primed   | 9,5 m               |
| Max diameter of suspended solids          | 10 mm               |
| Noise level                               | 80 dB               |
| Volume per stroke                         | 1825 cc             |

(\*) NPT fittings on request

\*\* The value depends on the pump configuration.

CE



Product designed and constructed in Italy

PATENTED stall-prevention pneumatic circuit

Operates with non-lubricated air

SELF-PRIMING

Dry operation

ATEX certification for ZONE 1 - ZONE 2

IECEX certification

Adjustable operating speed

Extremely versatile

Suitable for pumping liquids with high viscosity and demanding applications

Possibility of pumping fluids containing suspended solids

Possibility of suspended installation

Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP - PP+CF - PVDF

Suitable for continuous use

# BOXER 503

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



PP

Boxer 503



### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 726 mm |
| Width  | 585 mm |
| Depth  | 403 mm |



### Construction materials (casing and manifolds) and net weight

|                                                 |              |
|-------------------------------------------------|--------------|
| Polypropylene (with glass additive)             | 50 Kg        |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |
| Conductive polypropylene (with carbon additive) | 50 Kg        |
|                                                 | Max 3°C min. |
|                                                 | 65°C max     |



PVDF

Boxer 503



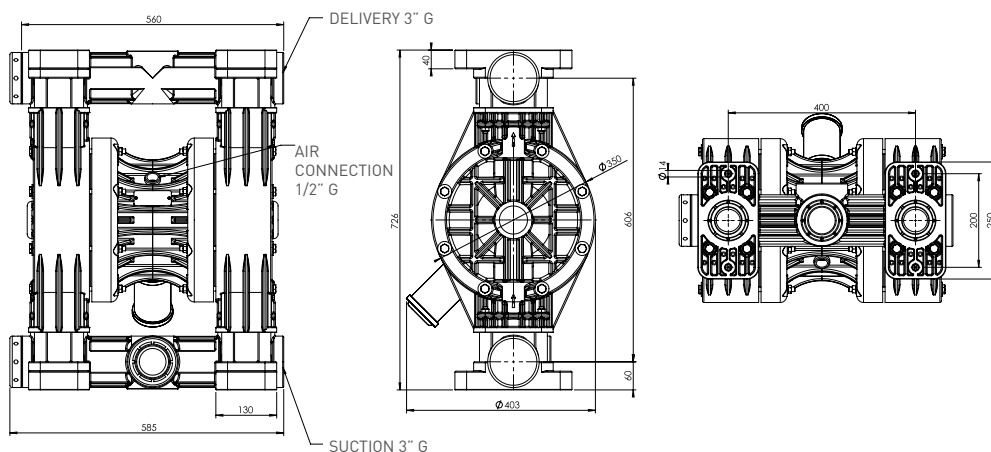
### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 726 mm |
| Width  | 585 mm |
| Depth  | 403 mm |



### Construction materials (casing and manifolds) and net weight

|      |              |
|------|--------------|
| PVDF | 67 Kg        |
|      | Max 3°C min. |
|      | 95°C max     |



# BOXER 503

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



### ALU

Boxer 503



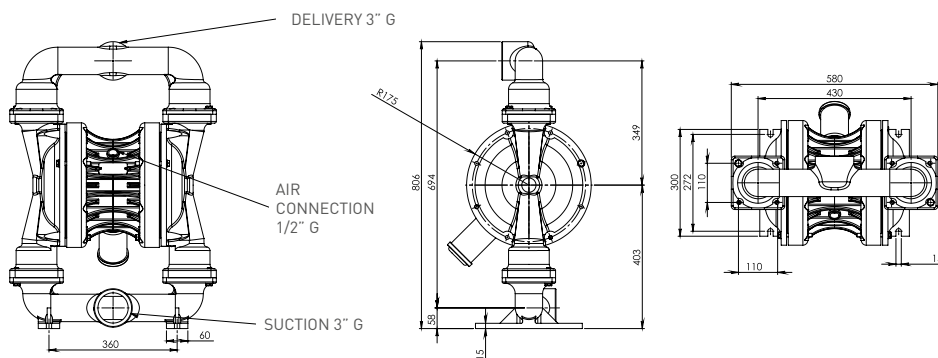
#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 806 mm |
| Width  | 580 mm |
| Depth  | 404 mm |



#### Construction materials (casing and manifolds) and net weight

|     |              |
|-----|--------------|
| ALU | 66 Kg        |
|     | Max 3°C min. |
|     | 95°C max     |



### Electropolished AISI 316

Boxer 503



#### Maximum Dimensions

|        |        |
|--------|--------|
| Height | 826 mm |
| Width  | 546 mm |
| Depth  | 404 mm |



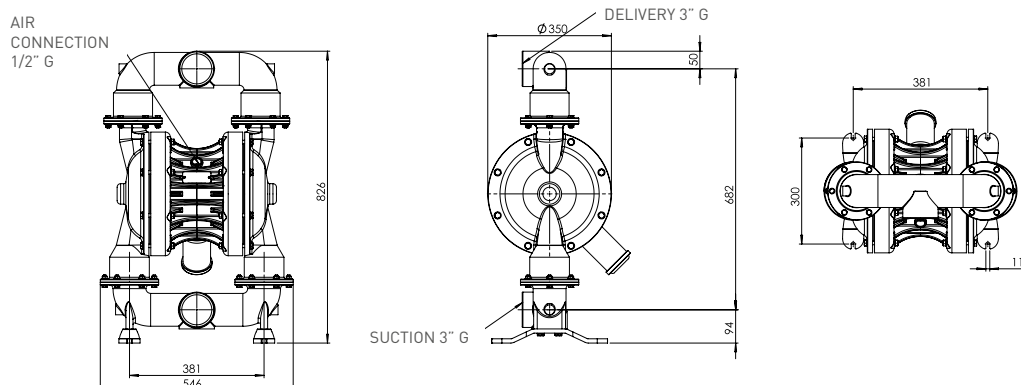
#### Construction materials (casing and manifolds) and net weight

|                          |              |
|--------------------------|--------------|
| Electropolished AISI 316 | 71 Kg        |
|                          | Max 3°C min. |
|                          | 95°C max     |



#### Construction materials (casing and manifolds) available on request

DUPLEX/W.DUPLEX



# BOXER 503

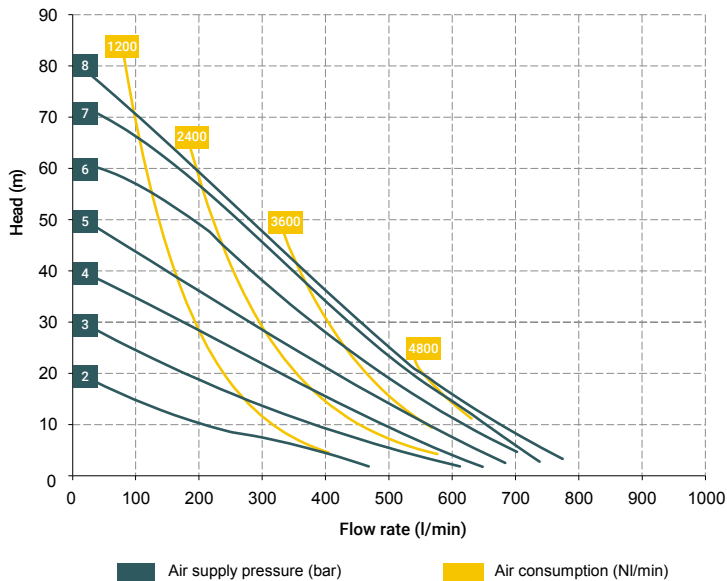
AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db



\*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary based on the composition materials.

### Accessories:

#### • Equaflex 303

(For the dampener materials refer to the relative technical sheet)

**Polypropylene or PVDF basket strainer with fittings G 3" f/f**

### Foot valve:

**VALVFN000300APP (POLYPROPYLENE)**

**VALVFN000300AFV (PVDF)**

- Air regulation kit W8000-20-G
- Cycle counter
- Reinforcement rings

### Flange kit (DIN flange - ANSI available on request):

**KITFLANG-B503P (POLYPROPYLENE)**

**KITFLANG-B503F (PVDF)**

**KITFLANG-B503A (AISI 316)**

**KITFLANG-B503AL (ALUMINIUM)**

### T40 distributor material (pneumatic circuit):

- POM

### Central material:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)

### Diaphragm materials:

- PTFE
- HYTREL
- SANTOPRENE
- NBR
- EPDM

### Caps materials:

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- AISI 316
- Aluminium

### Balls materials:

- PTFE
- AISI 316
- EPDM
- NBR

### O-ring materials:

- EPDM
- NBR
- VITON®
- PTFE

### Package:

**wooden crate - cm 83 x 70 x 52 - weight 25 Kg (PP+CF, PP+PVDF)**

(the weight refers to the package only, without the pump)

**wooden crate - cm 93 x 68 x 51 - weight 25 Kg (ALU)**

(the weight refers to the package only, without the pump)

**wooden crate - cm 94 x 63 x 51 - weight 24 Kg (AISI316)**

(the weight refers to the package only, without the pump)

Any chromatic variations in our polypropylene and PVDF products are due to the special mixtures of the raw materials used. The use of high quantities of, respectively, glass and carbon additives, results in a unique aesthetic that does not affect the quality of the product in any way. Quite the opposite, it highlights its highly technological nature, to the benefit of its performance.

## MAIN APPLICATION SECTORS



TEXTILE AND LEATHER  
INDUSTRY



PRODUCTION AND STORAGE  
OF BIODIESEL



PAINT INDUSTRY



PACKING, GLUE,  
PAPER AND PAPER MILLS



CERAMIC, STONE, MARBLE, GLASS  
AND MINING INDUSTRY



WATER AND SLUDGE  
TREATMENT



CHEMICAL INDUSTRY



MECHANICAL AND METAL-  
LURGIC INDUSTRY



OIL & GAS

# BOXER 503

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



## Specifications and types



STANDARD: II 3G Ex h IIB T4 Gc - II 3D Ex h IIIB T135°C Dc X - I M2 Ex h I Mb X  
CONDUCT: II 2G Ex h IIB T4 Gb - II 2D Ex h IIIB T135°C Db X - Ex h IIB T4 Gb - Ex h IIIB T135°C Db

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--

Internal distributor, Boxer 50, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

| I                    | IB50-                                                                                                                                                                                                                                                                                                                                          | P                                                                                                                    | H                                                                               | T                      | T                                                                           | P                                                                                                                                    | V                                                                                                | -                                                             | -                      |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------|
| INTERNAL DISTRIBUTOR | PUMP MODEL                                                                                                                                                                                                                                                                                                                                     | DAMPER PUMP                                                                                                          | AIR-SIDE DIAPHRAGM                                                              | PRODUCT-SIDE DIAPHRAGM | BALLS                                                                       | BALL SEATS                                                                                                                           | O-RING                                                                                           | SPLIT MANIFOLD                                                | CONDUCT VERSION        |
| I                    | <b>B7</b> Boxer 7<br><b>B15</b> Boxer 15<br><b>MICR</b> Microboxer<br><b>MIN</b> Miniboxer<br><b>B50</b> Boxer 50<br><b>B81</b> Boxer 81<br><b>B90</b> Boxer 90<br><b>B100</b> Boxer 100<br><b>B150</b> Boxer 150<br><b>B251</b> Boxer 251<br><b>B252</b> Boxer 252<br><b>B502</b> Boxer 502<br><b>B522</b> Boxer 522<br><b>B503</b> Boxer 503 | <b>P</b> - Polypropylene<br><b>FC</b> - PVDF+CF<br><b>PC</b> - PP+CF<br><b>AL</b> - Aluminium<br><b>A</b> - AISI 316 | <b>N</b> - NBR<br><b>D</b> - EPDM<br><b>H</b> - Hytrel<br><b>M</b> - Santoprene | <b>T</b> - PTFE        | <b>T</b> - PTFE<br><b>A</b> - AISI 316<br><b>D</b> - EPDM<br><b>N</b> - NBR | <b>P</b> - Polypropylene<br><b>F</b> - PVDF<br><b>A</b> - AISI 316<br><b>I</b> - PE-UHMW<br><b>R</b> - PPS-V<br><b>L</b> - Aluminium | <b>D</b> - EPDM<br><b>V</b> - Viton®<br><b>N</b> - NBR<br><b>T</b> - PTFE<br><b>S</b> - Silicone | <b>X*</b><br><b>3*</b><br><b>Y*</b><br><b>J*</b><br><b>W*</b> | <b>C*</b><br><b>Z*</b> |

\*X = split manifold

\*3 = 3° central hole on manifold

\*Y = "NPT" thread

\*J = spacer on shaft

\*W = clamp manifold

(all only on request)

C = version CONDUCT for standard ATEX ZONE 1 Ex II 2/2GD c IIB T135°C

Z = version for standard IECEx  
(both only on request)

SELF-PRIMING USE



UNDER HEAD USE

