# Boxer 7



## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone M2 | I M2 Ex h I Mb X* |
| | Ex h IIB T4 Gb e Ex h IIIB T135°C Db | |

* The string relating to mining applications is not applicable to aluminium BOXER range pumps

| | |
|---|---|
| Suction / delivery connections | 1/4" f BSPP(*) |
| Air fitting | 1/8" f BSPP |
| 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 - with pump primed | 9,5 m |
| Max. diameter suspended solids | 0,5 mm |
| Noise | 65 dB |

(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

| PLASTIC MATERIAL - PP (GF/CF) | Boxer 7 |
|---|---|
| **Maximum dimensions** | |
| Height | 120 mm |
| Width | 137 mm |
| Depth | 69 mm |
| **Construction mat. (casing and manifolds) and net weight** | |
| **POLYPROPYLENE (with glass additive)** | 0,7 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 0,7 Kg<br>Temp. 3°C min.<br>65°C max |

| PLASTIC MATERIAL - PVDF | Boxer 7 |
|---|---|
| **Maximum dimensions** | |
| Height | 120 mm |
| Width | 137 mm |
| Depth | 70 mm |
| **Construction mat. (casing and manifolds) and net weight** | |
| **PVDF (with carbon additive)** | 0,7 Kg<br>Temp. 3°C min.<br>95°C max |



DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 7

2025 OFFICIAL SPONSOR

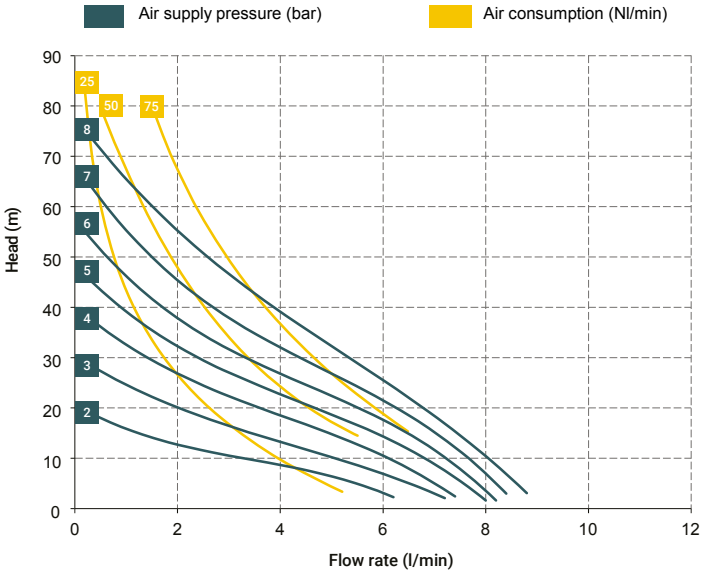
#unboxingdebem

## Specifications and types

| | |
|---|---|
| Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| Zone M2 | I M2 Ex h I Mb X* |

Ex h IIB T4 Gb e Ex h IIIB T135°C Db

* The string relating to mining applications is not applicable to aluminium BOXER range pumps




### T10 distributor material (compressed air circuit)

- POM

### Core material

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

### Diaphragm materials

- PTFE
- NBR

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### BOXER 07 (PP):

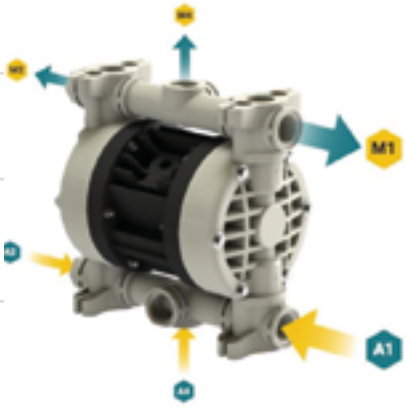
A1 - A2 - A4 - M1 - M2- M4

### BOXER 07 (PVDF):

A1 - A2 - A4 - M1 - M2- M4

### Standard fittings:

- Suction: A1
- Delivery: M1




### Packaging

Cardboard box - 14 x 19 x 14 cm - weight 0.17 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

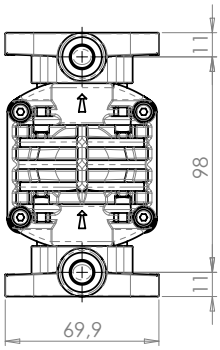
- Equaflux 51 (For damper materials, please refer to the technical data sheet)
- Air regulation kit W1000-8-G

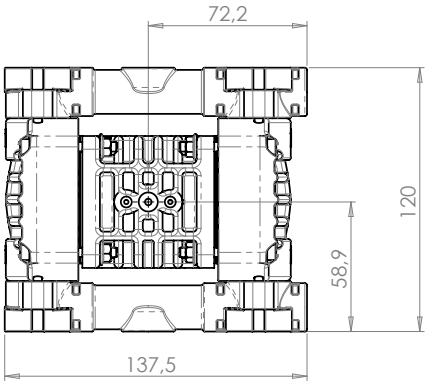
The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

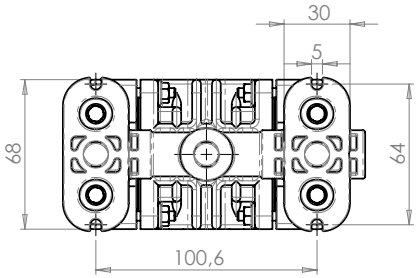
**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our plastic products are due to the special mixtures of the raw materials used. The use of high fillers, glass and long-fibre carbon, provides a distinctive aesthetic that in no way detracts from the quality of the product, but rather emphasises its high technical content, to the benefit of performance.




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 7

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| Zone M2 | I M2 Ex h I Mb X* |
| Ex h IIB T4 Gb e Ex h IIIB T135°C Db | |

* The string relating to mining applications is not applicable to aluminium BOXER range pumps

## BOXER PUMPS CODES ENCODING

ex. IB07-P-HTTPV--
Internal distributor, Boxer 07, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

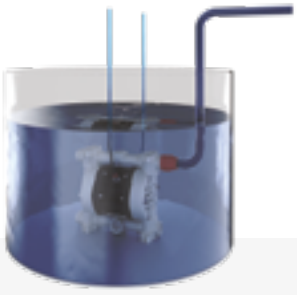
Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

Self priming

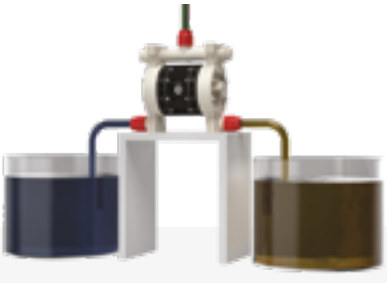
Under head



Immersed

Drum Transfer

Split Suction



Split Suction and Delivery


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 15

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

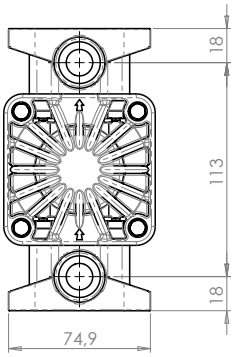
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

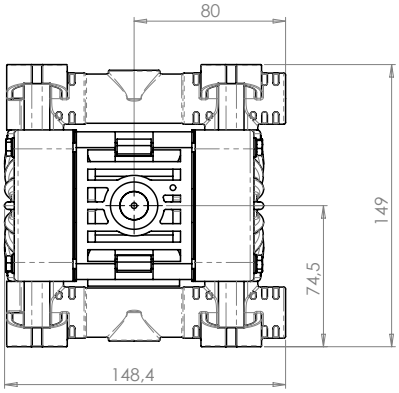
** The IIC Group gas application string is applicable on Boxer series pumps in Conduct version with conductive TFM membranes.
* The mining application string does not apply to aluminium pumps in the Boxer range

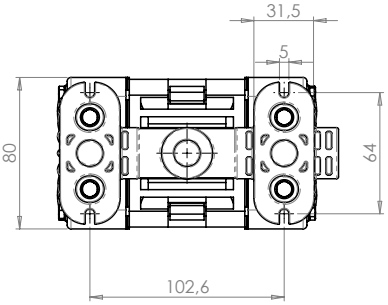
| | |
|---|---|
| Suction / delivery connections Boxer 15 | 3/8" f BSPP (*) |
| Suction / delivery connections FDA Boxer 15 | 3/4" Clamp BS 4825' |
| Air fitting | 3/8" f BSPP |
| Max. flow rate* | 17 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 3 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 0,5 mm |
| Noise | 65 dB |

(*) NPT connections on request
* Curves and performance refer to pumps with submerged suction and free delivery port, with water at 20°C and vary depending on material composition.
** Value depends on pump configuration.

| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 15 |
|---|---|
| **Maximum dimensions** | |
| Height | 149 mm |
| Width | 148 mm |
| Depth | 80 mm |
| **Construction mat. (casing and manifolds) and net weight** | |
| **POLYPROPYLENE (with glass filler)** | 1,1 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon filler)** | 1,1 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon filler)** | 1,4 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

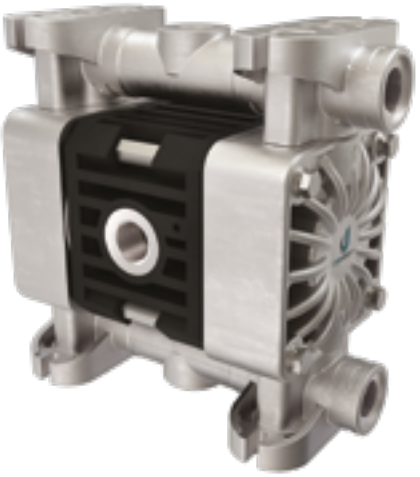
# Boxer 15



## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

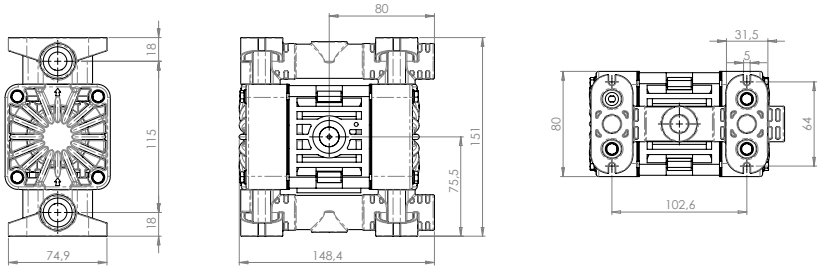
** The IIC Group gas application string is applicable on Boxer series pumps in Conduct version with conductive TFM membranes.
* The mining application string does not apply to aluminium pumps in the Boxer range



### METAL MATERIAL - ALU | Boxer 15

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

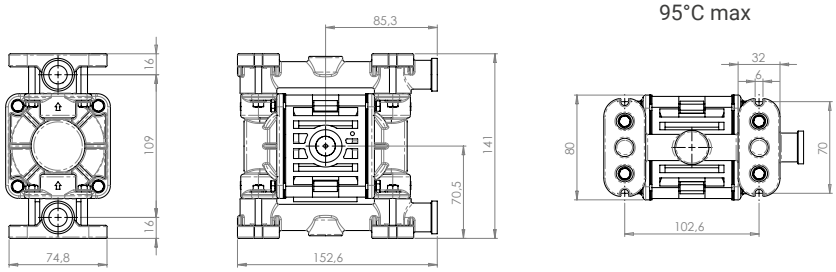
| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **ALU** | 1,9 Kg<br>Temp. 3°C min.<br>95°C max |




### METAL MATERIAL - AISI 316 L | Boxer 15

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316 L** | 2,4 Kg<br>Temp. 3°C min.<br>95°C max |




## FDA BOXER 15

### METAL MATERIAL - AISI 316 L | FDA Boxer 15

| Maximum dimensions | |
|---|---|
| Height | 162 mm |
| Width | 160 mm |
| Depth | 80 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316 L** | 2,4 Kg<br>Temp. 3°C min.<br>95°C max |

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 15

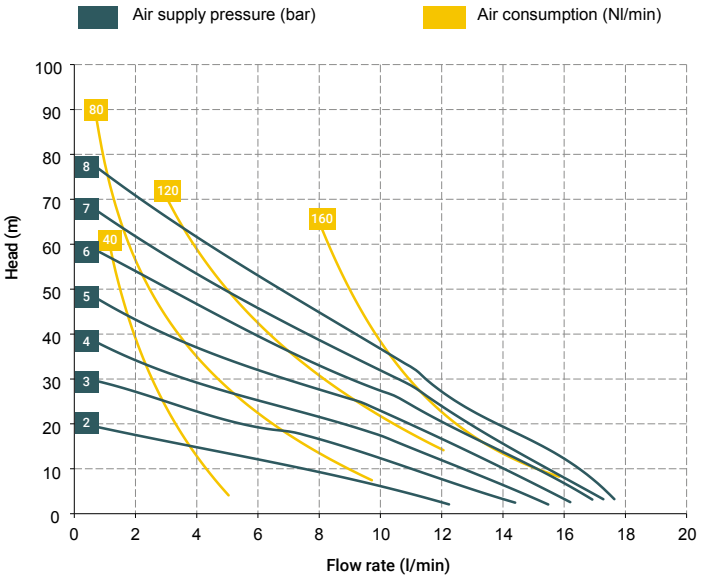
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The IIC Group gas application string is applicable on Boxer series pumps in Conduct version with conductive TFM membranes.
* The mining application string does not apply to aluminium pumps in the Boxer range




### BOXER 15 (PP):

A1 - A2 - A4 - A5 - A6 - M1 - M2- M4 - M5 - M6

### BOXER 15 (PVDF):

A1 - A2 - A4 - A5 - A6 - M1 - M2- M4 - M5 - M6

### BOXER 15 (INOX):

A1 - A2 - A4 - A5 - A6 - M1 - M2- M4 - M5 - M6

### BOXER 15 (ALU):

A1 - A2 - A4 - A5 - A6 - M1 - M2- M4 - M5 - M6


### Standard fittings:

- Suction: A1
- Delivery: M1

### T15 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aluminium

### Diaphragm materials

- PTFE
- NBR

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Cardboard box - 14 x 20 x 20 cm - weight 0.4 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 51 (For damper materials, please refer to the technical data sheet)
- Foot valve
- Air regulation kit
- Batch controller
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 15

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The IIC Group gas application string is applicable on Boxer series pumps in Conduct version with conductive TFM membranes.
* The mining application string does not apply to aluminium pumps in the Boxer range

## BOXER PUMPS CODES ENCODING

ex. IB15-P-HTTPV--
Internal distributor, Boxer 15, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

Example table, for the table with the complete codes please contact the Debem sales department.

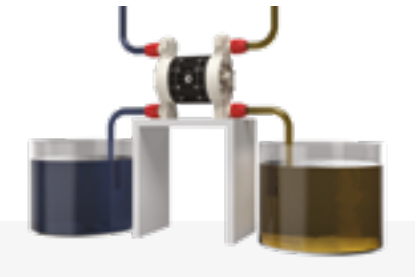
*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

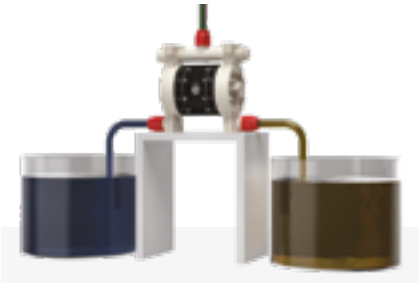
Self priming

Under head

Drum Transfer



Split Suction and Delivery



Split Suction


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 50 / Miniboxer

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb ** |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

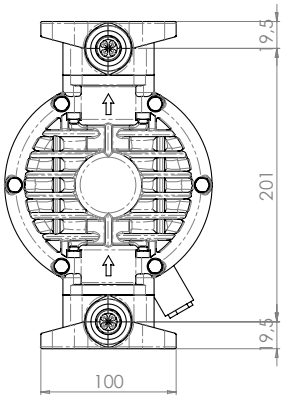
| | |
|---|---|
| Suction / delivery connections Boxer 50 / Miniboxer | 1/2" f BSPP (*) |
| Suction / delivery connections FDA Boxer 50 | 3/4" - 1" Clamp BS 4825' |
| Air fitting | 3/8" f BSPP |
| Max. flow rate* | 60 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 4 mm |
| Noise | 70 dB |

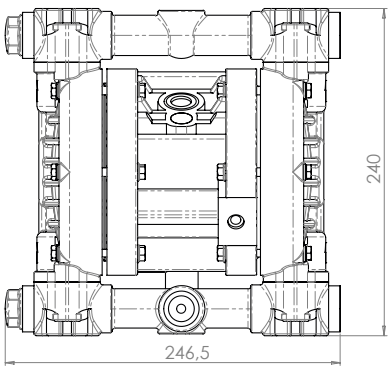
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

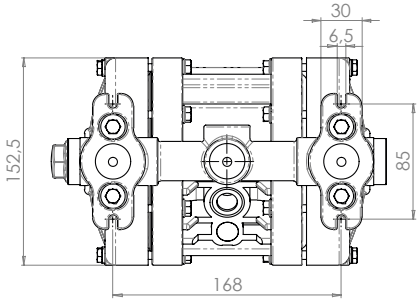
| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 50 |
|---|---|

| Maximum dimensions | |
|---|---|
| Height | 240 mm |
| Width | 246 mm |
| Depth | 153 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **POLYPROPYLENE (with glass additive)** | 3,6 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 3,6 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 4,2 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 50 / Miniboxer



## Specifications and types

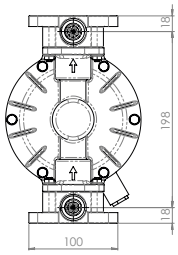
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb ** |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

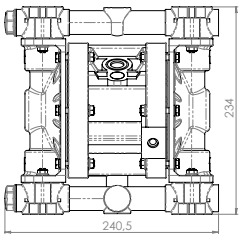
** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

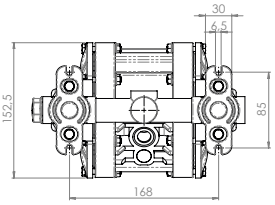
### METAL MATERIAL - ALU — Boxer 50

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **PVDF (with carbon additive)** | 4 Kg<br>Temp. 3°C min.<br>95°C max |



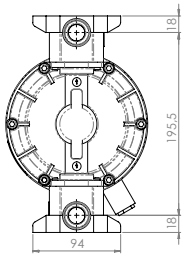



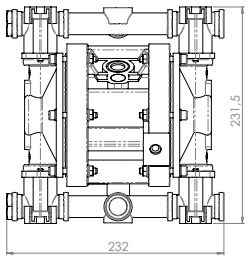

## MINIBOXER

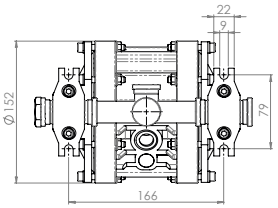
### METAL MATERIAL - AISI 316 L — Miniboxer

| Maximum dimensions | |
|---|---|
| Height | 232 mm |
| Width | 232 mm |
| Depth | 152 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316 L** | 6,5 Kg<br>Temp. 3°C min.<br>95°C max |




## FDA BOXER 50

### METAL MATERIAL - AISI 316 L — FDA Boxer 50

| Maximum dimensions | |
|---|---|
| Height | 260 mm |
| Width | 262 mm |
| Depth | 152 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316 L** | 6 Kg<br>Temp. 3°C min.<br>95°C max |

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 50 / Miniboxer

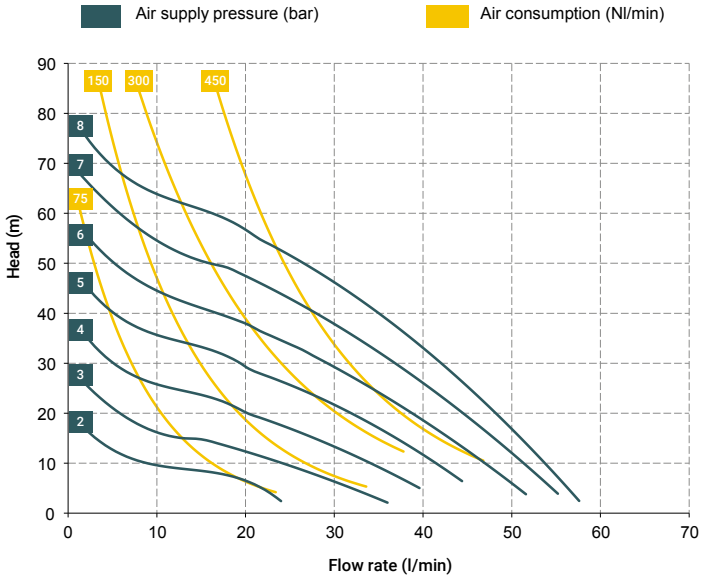
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb ** |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.




### BOXER 50 (PP):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 50 (PVDF):

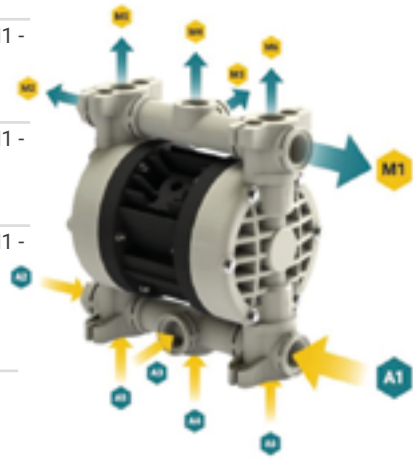
A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 50 (ALU):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### Standard fittings:

- Suction: A1
- Delivery: M1

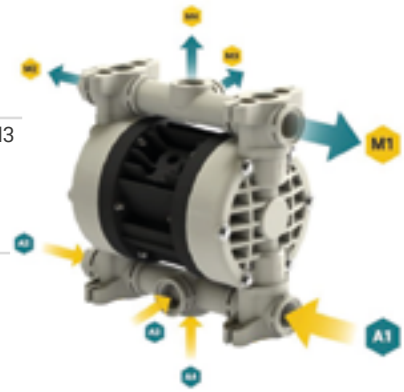



### MINIBOXER (INOX):

A1 - A2 - A3 - A4 - M1 - M2 - M3 - M4

### Standard fittings:

- Suction: A1
- Delivery: M1




### Distributor material T20 (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Cardboard box - 23 x 31 x 33 cm - weight 0.8 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 100 (For damper materials, please refer to the technical data sheet)
- Foot valve
- Air regulation kit W1000-8-G
- Batch controller
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 50 / Miniboxer

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb ** |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

ex. IB50-P-HTTPV--
Internal distributor, Boxer 50, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

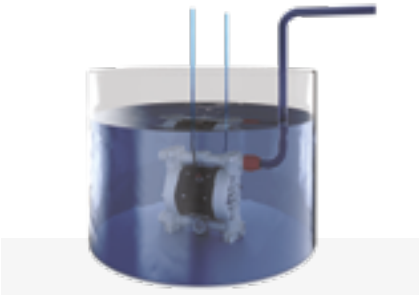
Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

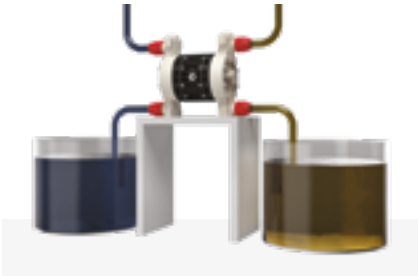
Under head

Montée en charge

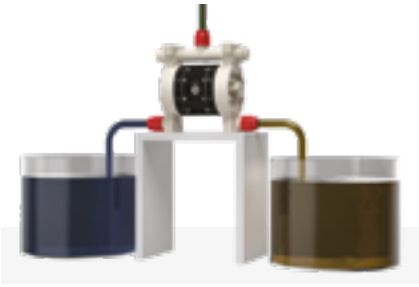


Immersed

Drum Transfer



Split Suction and Delivery



Split Suction


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 81 / Boxer 90

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

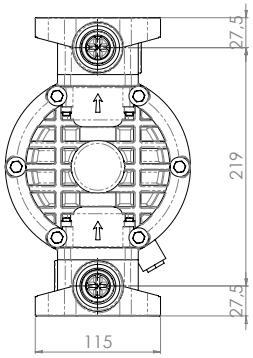
| | |
|---|---|
| Suction / delivery connections Boxer 81 / 90 | 1" f BSPP (*) |
| Suction / delivery connections FDA Boxer 81 | 1"1/2 Clamp BS 4825' |
| Air fitting | 3/8" f BSPP |
| Max. flow rate* | 110 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 4 mm |
| Noise | 70 dB |

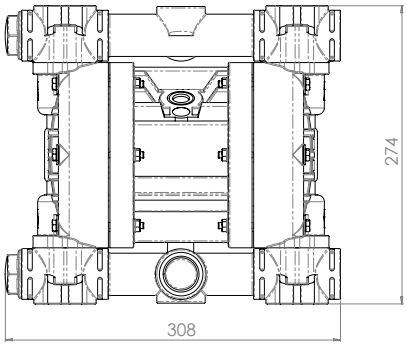
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

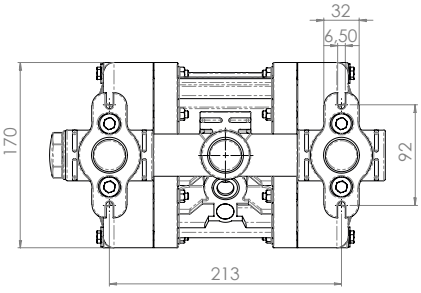
| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 81 |
|---|---|

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **POLYPROPYLENE (with glass additive)** | 5 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 5 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 6,5 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 81 / Boxer 90



## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

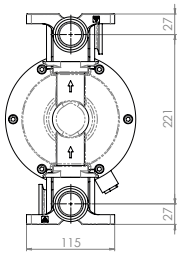
** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

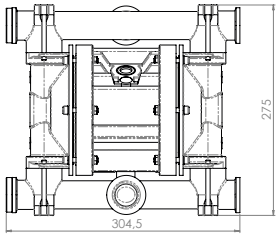
## FDA BOXER 81

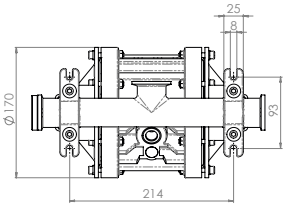
### METAL MATERIAL - AISI 316 — Boxer 81

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 10,6 Kg<br>Temp. 3°C min.<br>95°C max |




### FDA — METAL MATERIAL - AISI 316 — FDA Boxer 81

| Maximum dimensions | |
|---|---|
| Height | 305 mm |
| Width | 315 mm |
| Depth | 170 mm |

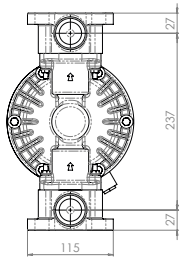
| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 10,6 Kg<br>Temp. 3°C min.<br>95°C max |

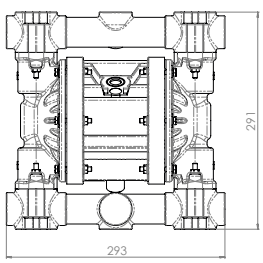
## BOXER 90

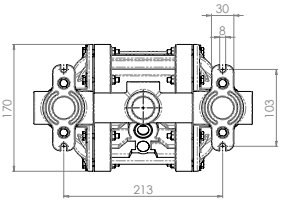
### METAL MATERIAL - ALU — Boxer 90

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **ALU** | 7 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 81 / Boxer 90

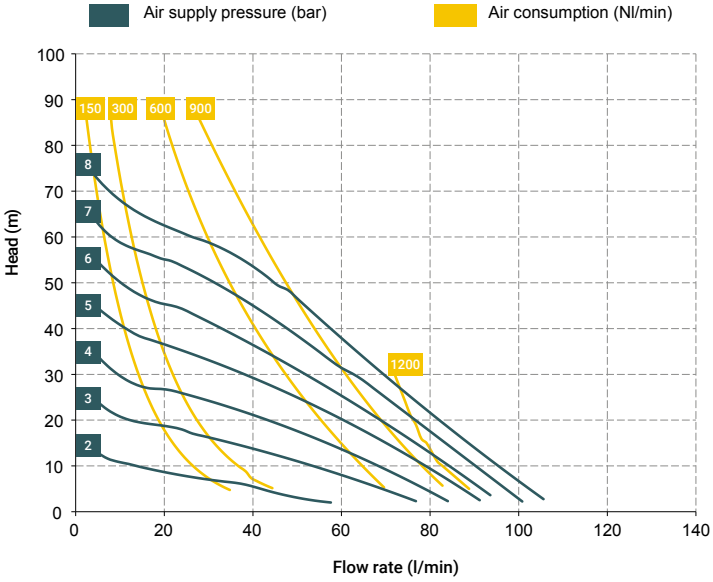
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.




### BOXER 90 (ALU):

A1 - A2 - A3 - A4 - M1 - M2 - M3 -M4

### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 81 (INOX):

A1 - A2 - A3 - M1 - M2 - M3

### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 81 (PP):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 81 (PVDF):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### Standard fittings:

- Suction: A1
- Delivery: M1

### T20 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aisi 316
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Cardboard box - 24 x 39 x 37 cm - weight 1.2 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 100 (For damper materials, please refer to the technical data sheet)
- Truck model 01
- Foot valve
- Air regulation kit W3000-10-G
- Batch controller
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 81 / Boxer 90

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

ex. IB81-P-HTTPV--
Internal distributor, Boxer 81, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

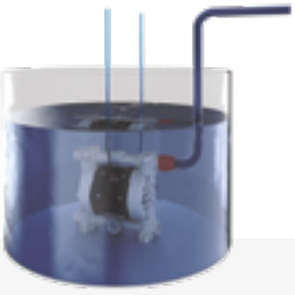
Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

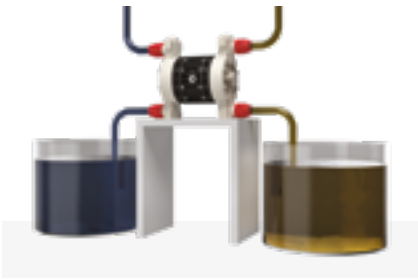
Self priming

Under head

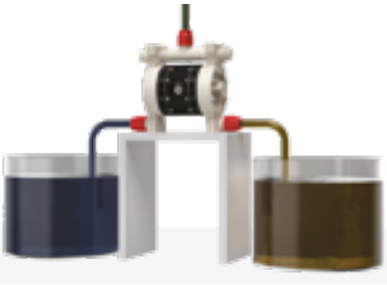


Immersed

Drum Transfer



Split Suction



Split Suction and Delivery

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 100

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

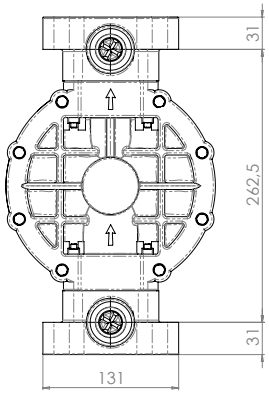
| | |
|---|---|
| Suction / delivery connections Boxer 100 | 1" f BSPP (*) |
| Suction / delivery connections FDA Boxer 100 | 1”1/2 Clamp BS 4825’ |
| Air fitting | 3/8" f BSPP |
| Max. flow rate* | 160 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 4 mm |
| Noise | 75 dB |

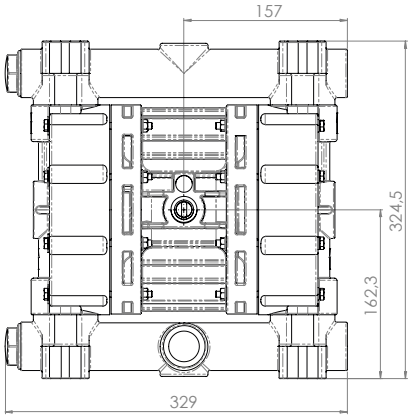
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

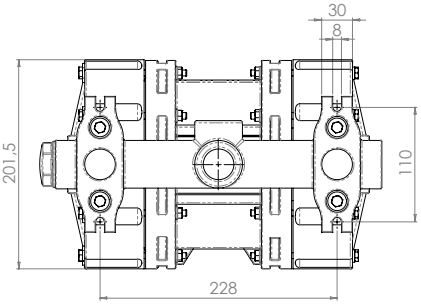
| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 100 |
|---|---|

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **POLYPROPYLENE (with glass additive)** | 7,5 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 7,5 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 8,5 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 100

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

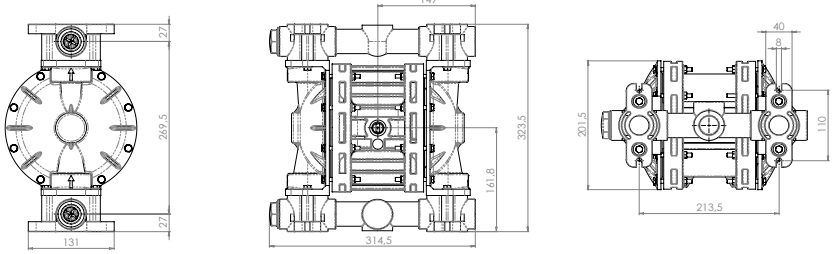
### METAL MATERIAL - ALU — Boxer 100

**Maximum dimensions**

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

**Construction mat. (casing and manifolds) and net weight**

| | |
|---|---|
| **ALU** | 8,2 Kg |
| | Temp. 3°C min. |
| | 95°C max |



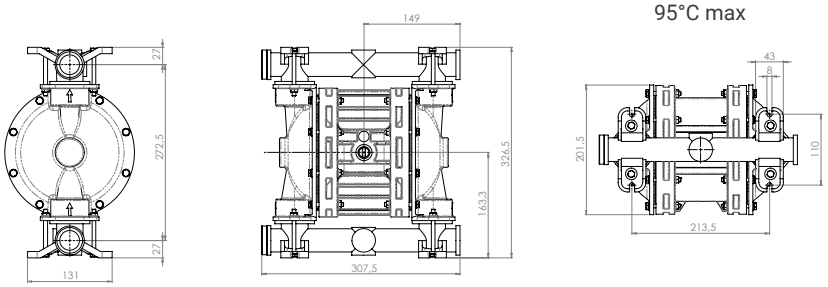

### METAL MATERIAL - AISI 316 — Boxer 100

**Maximum dimensions**

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

**Construction mat. (casing and manifolds) and net weight**

| | |
|---|---|
| **AISI 316** | 11 Kg |
| | Temp. 3°C min. |
| | 95°C max |




## FDA BOXER 100

FDA

### METAL MATERIAL - AISI 316 — FDA Boxer 100

**Maximum dimensions**

| | |
|---|---|
| Height | 358 mm |
| Width | 342 mm |
| Depth | 202 mm |

**Construction mat. (casing and manifolds) and net weight**

| | |
|---|---|
| **AISI 316** | 11,7 Kg |
| | Temp. 3°C min. |
| | 95°C max |


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 100

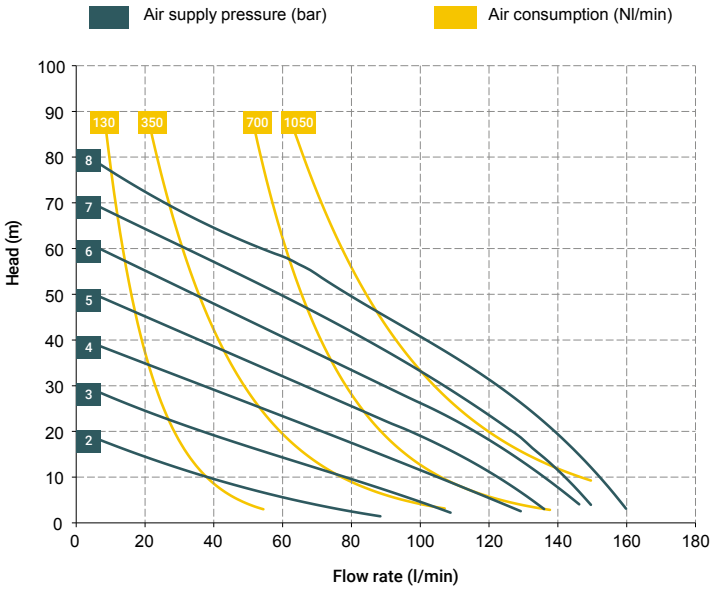
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.




### BOXER 100 (PP):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 100 (PVDF):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 100 (ALU):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6


### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 100 (INOX):

A1 - A2 - A3 - M1 - M2 - M3


### Standard fittings:

- Suction: A1
- Delivery: M1

### T20 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aisi 316
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Cardboard box - 27 x 39 x 41 cm - weight 1,4 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 200 (For damper materials, please refer to the technical data sheet)
- Truck model 01
- Foot valve
- Air regulation kit W3000-10-G
- Batch controller
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 100

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

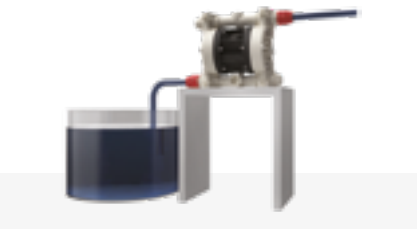
ex. IB100-P-HTTPV--
Internal distributor, Boxer 100, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

Example table, for the table with the complete codes please contact the Debem sales department.

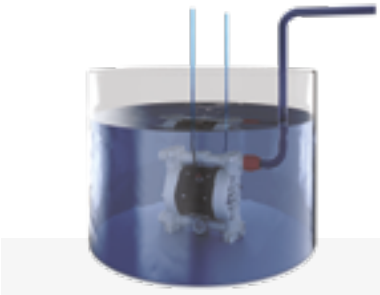
*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard



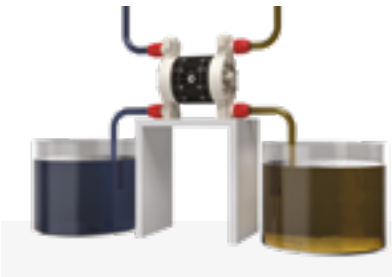
Self priming

Under head



Immersed

Drum Transfer



Split Suction

Split Suction and Delivery


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 150

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

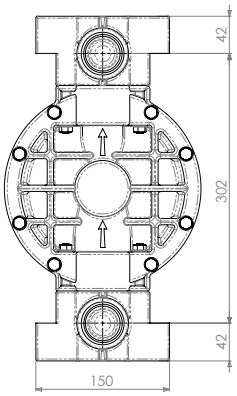
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

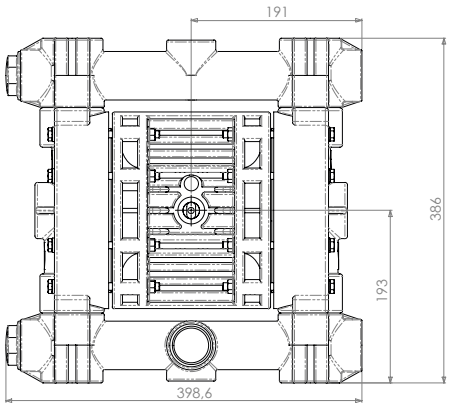
** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

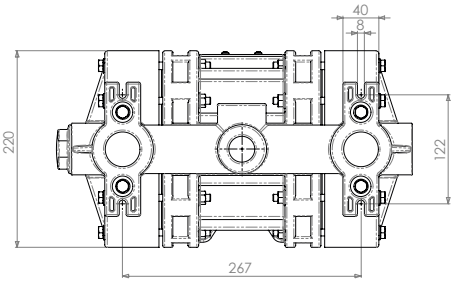
| | |
|---|---|
| Suction / delivery connections Boxer 150 | 1”1/4 f BSPP (*) |
| Suction / delivery connections FDA Boxer 150 | 1”1/4 Clamp (ISO) |
| Air fitting | 1/2" f BSPP |
| Max. flow rate* | 220 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 5 mm |
| Noise | 75 dB |

(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 150 |
|---|---|
| **Maximum dimensions** | |
| Height | 386 mm |
| Width | 399 mm |
| Depth | 220 mm |
| **Construction mat. (casing and manifolds) and net weight** | |
| **POLYPROPYLENE (with glass additive)** | 12 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 12 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 14 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 150

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

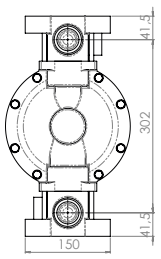
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

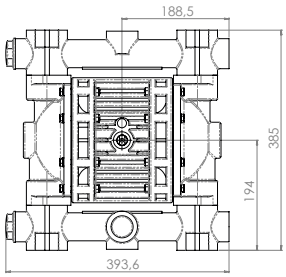
** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

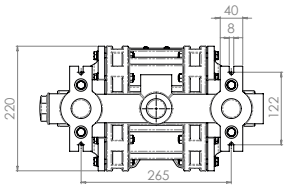
### METAL MATERIAL - ALU — Boxer 150

| Maximum dimensions | |
|---|---|
| Height | 385 mm |
| Width | 394 mm |
| Depth | 220 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **ALU** | 16 Kg<br>Temp. 3°C min.<br>95°C max |



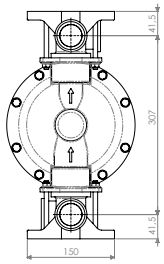



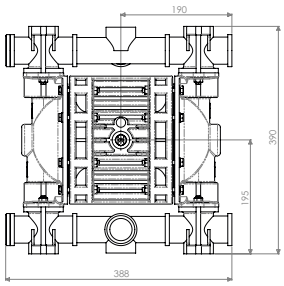



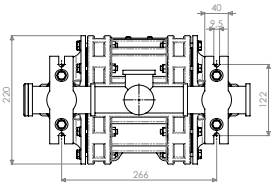

### METAL MATERIAL - AISI 316 — Boxer 150

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 21 Kg<br>Temp. 3°C min.<br>95°C max |




## FDA BOXER 150

### METAL MATERIAL - AISI 316 — FDA Boxer 150

| Maximum dimensions | |
|---|---|
| Height | 404 mm |
| Width | 450 mm |
| Depth | 220 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 23 Kg<br>Temp. 3°C min.<br>95°C max |

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 150

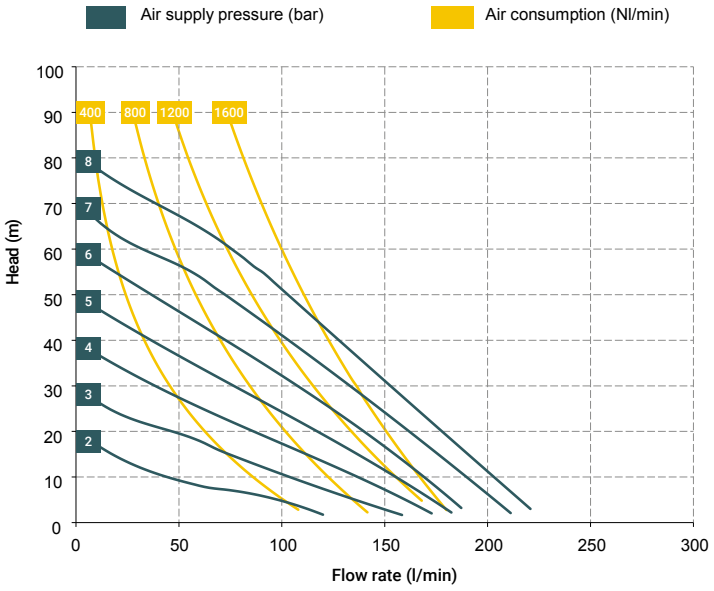
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.




### BOXER 150 (PP):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 150 (PVDF):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 150 (ALU):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6


### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 150 (INOX):

A1 - A2 - A3 - M1 - M2 - M3


### Standard fittings:

- Suction: A1
- Delivery: M1

### T30 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aisi 316
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Cardboard box - 29 x 48 x 47 cm - weight 2 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 200 (For damper materials, please refer to the technical data sheet)
- Truck model 01
- Foot valve
- Air regulation kit W3000-10-G
- Batch controller
- Stroke counter
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 150

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

ex. IB150-P-HTTPV--
Internal distributor, Boxer 150, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

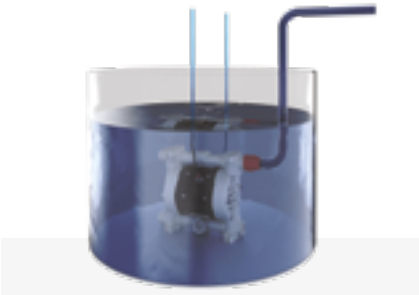
Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

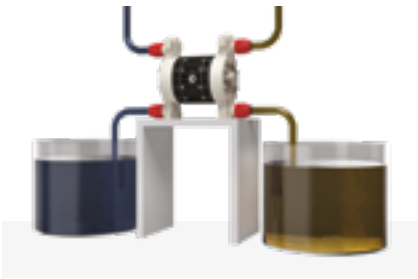
Self priming

Under head

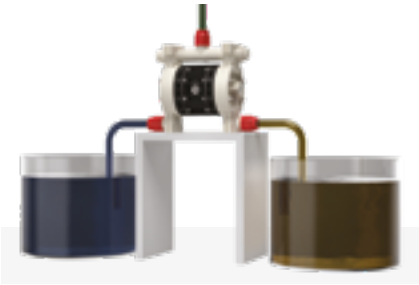


Immersed

Drum Transfer



Split Suction



Split Suction and Delivery


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 251 / Boxer 252

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

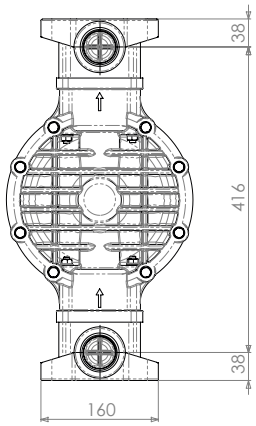
| | |
|---|---|
| Suction / delivery connections Boxer 251 / Boxer 252 | 1 1/2" f BSPP (*) |
| Suction / delivery connections FDA Boxer 252 | 2" Clamp BS 4825 |
| Air fitting | 1/2" f BSPP |
| Max. flow rate* | 340 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 6 mm |
| Noise | 80 dB |

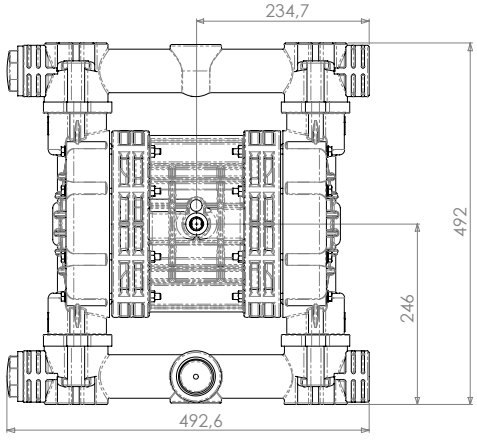
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

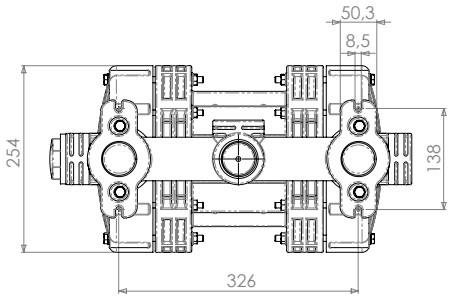
| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 251 |
|---|---|

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **POLYPROPYLENE (with glass additive)** | 16 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 16 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 20 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 251 / Boxer 252

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

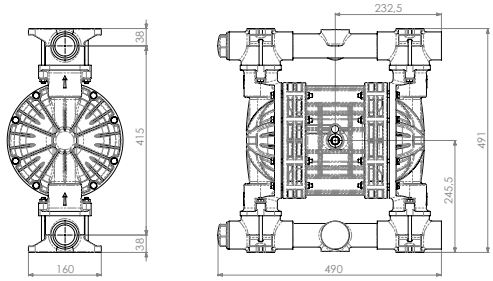
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

### METAL MATERIAL - ALU — Boxer 251

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **ALU** | 21 Kg<br>Temp. 3°C min.<br>95°C max |

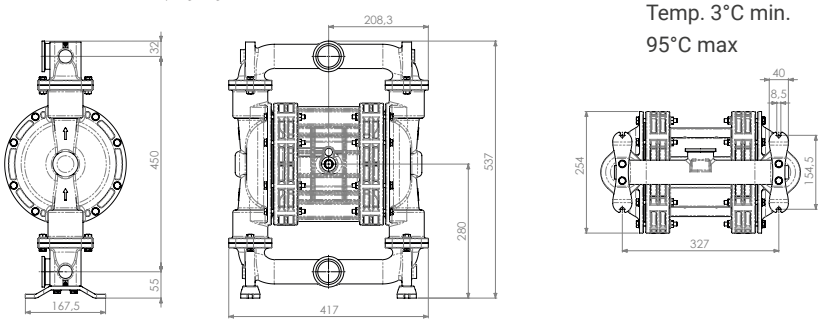



## BOXER 252

### METAL MATERIAL - AISI 316 — Boxer 252

| Maximum dimensions | |
|---|---|
| Height | 537 mm |
| Width | 417 mm |
| Depth | 254 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 32 Kg<br>Temp. 3°C min.<br>95°C max |




## FDA BOXER 252

### METAL MATERIAL - AISI 316 — FDA Boxer 252

| Maximum dimensions | |
|---|---|
| Height | 560 mm |
| Width | 417 mm |
| Depth | 254 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 26,2 Kg<br>Temp. 3°C min.<br>95°C max |


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 251 / Boxer 252

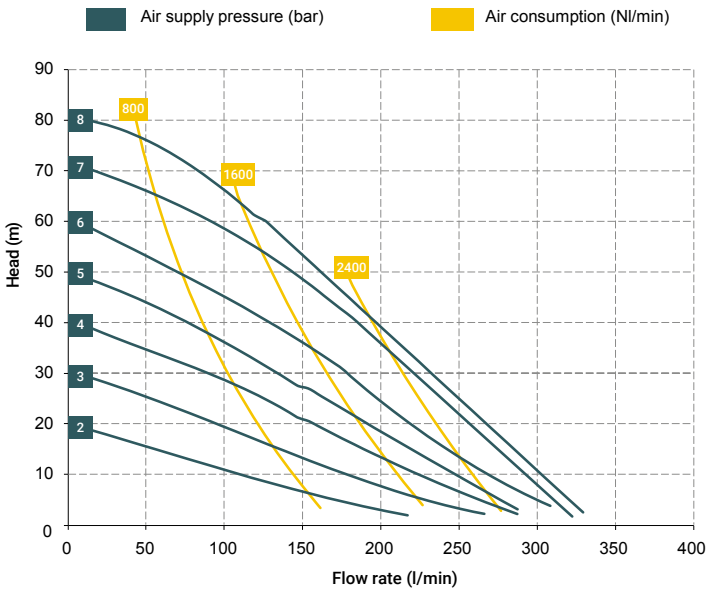
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.




### BOXER 251 (PP):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 251 (PVDF):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 251 (ALU):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 252 (INOX):

A3 - M3

### Standard fittings:

- Suction: A3
- Delivery: M3

### T30 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Cardboard box - 36 x 59 x 64 cm - weight 3 kg
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 200 (For damper materials, please refer to the technical data sheet)
- Truck model 02
- Basket strainer with fittings 1 1/2" f-f (PP or PVDF)
- Foot valve
- Air regulation kit W3000-10-G
- Batch controller
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 251 / Boxer 252

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

ex. IB251-P-HTTPV--
Internal distributor, Boxer 251, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

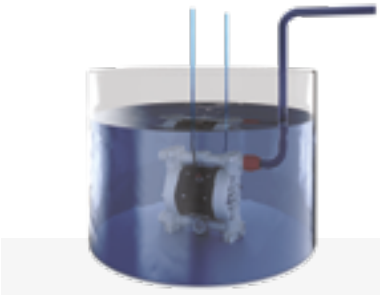
Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

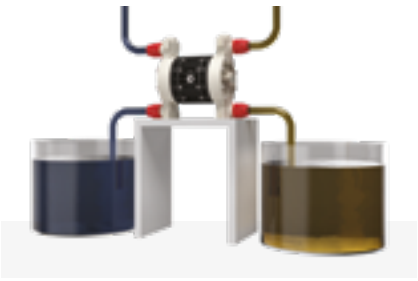
C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

Self priming

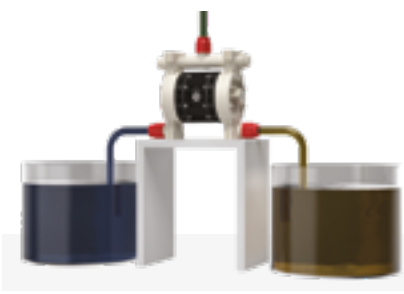
Under head



Immersed



Split Suction



Split Suction and Delivery


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 522 / Boxer 502

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

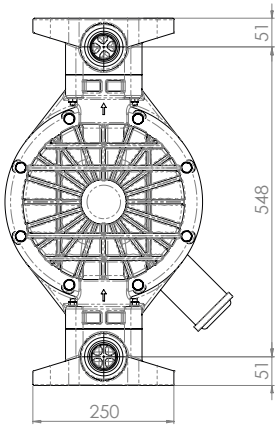
| | |
|---|---|
| Suction / delivery connections Boxer 522 / Boxer 502 | 2" f BSPP (*) |
| Suction / delivery connections FDA Boxer 502 | 2"1/2 Clamp BS 4825 |
| Air fitting | 1/2" f BSPP |
| Max. flow rate* | 600 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 5 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 8 mm |
| Noise | 80 dB |

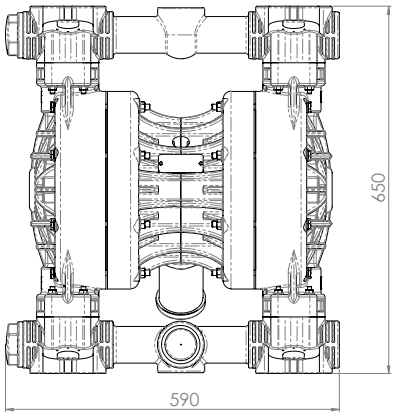
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

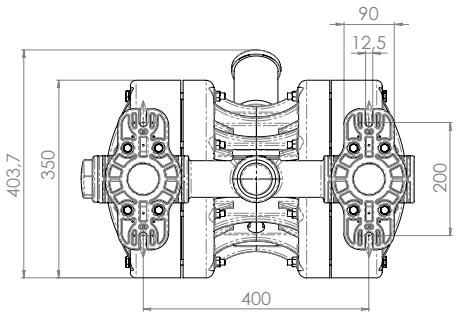
**PLASTIC MATERIAL PP (GF/CF) - PVDF** | **Boxer 522**

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **POLYPROPYLENE (with glass additive)** | 38 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 38 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 45 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 522 / Boxer 502

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

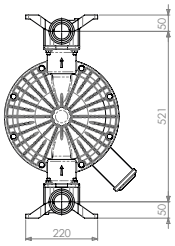
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

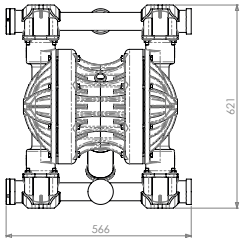
** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

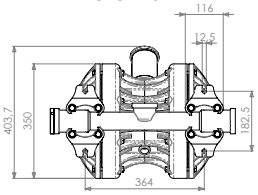
### METAL MATERIAL - ALU — Boxer 502

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **ALU** | 49 Kg<br>Temp. 3°C min.<br>95°C max |



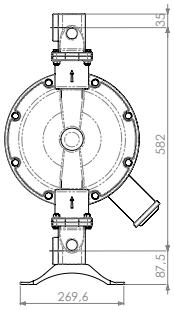



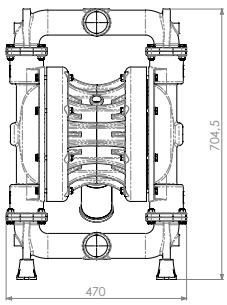



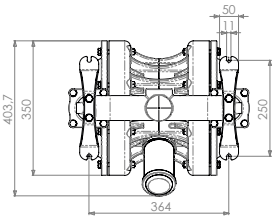

### METAL MATERIAL - AISI 316 — Boxer 502

| Maximum dimensions | |
|---|---|
| Height | 705 mm |
| Width | 470 mm |
| Depth | 403 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 54 Kg<br>Temp. 3°C min.<br>95°C max |




## FDA BOXER 502

### METAL MATERIAL - AISI 316 — FDA Boxer 502

| Maximum dimensions | |
|---|---|
| Height | 705 mm |
| Width | 725 mm |
| Depth | 403 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 54 Kg<br>Temp. 3°C min.<br>95°C max |

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 522 / Boxer 502

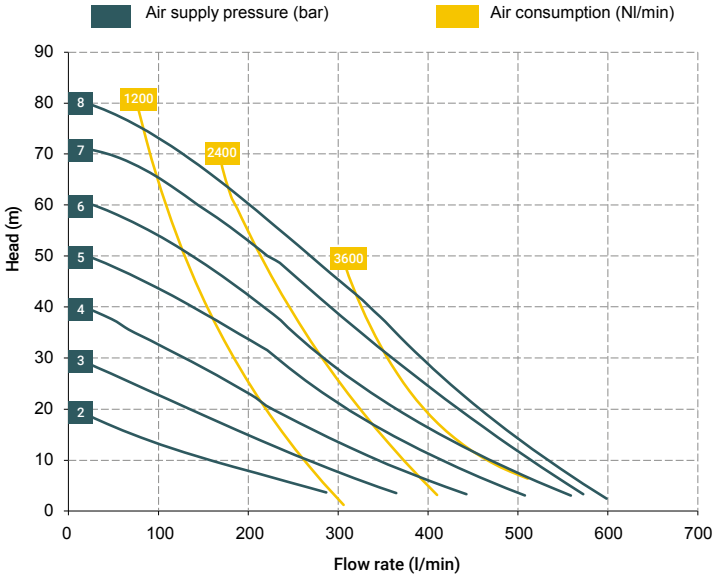
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.




### BOXER 502 (ALU):

A1 - A2 - A3 - M1 - M2 - M3

### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 502 (INOX):

A3 - M3

### Standard fittings:

- Suction: A3
- Delivery: M3

### BOXER 522 (PP):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### BOXER 522 (PVDF):

A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### Standard fittings:

- Suction: A1
- Delivery: M1

### T40 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Wooden crate - 74 x 70 x 53 cm - weight 22 Kg (PP, PP+CF, PVDF, ALU)
(the weight refers only to the packaging without the pump inside)

Wooden crate - 79 x 55 x 52 cm - weight 25 Kg (AISI316)
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 302 (For damper materials, please refer to the technical data sheet)
- Basket filter in Polypropylene or PVDF with G 2” f/f fittings
- Foot valve
- Air regulation W8000-20-G
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 522 / Boxer 502

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

ex. IB522-P-HTTPV--
Internal distributor, Boxer 522, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

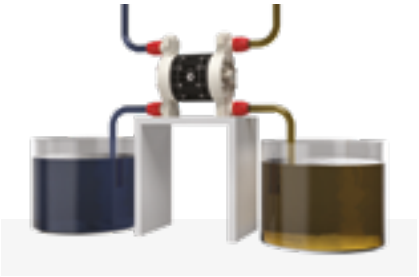
Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

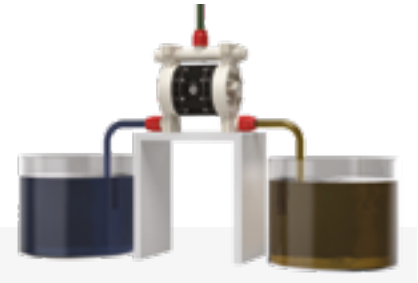
C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

Self priming

Under head



Split Suction



Split Suction and Delivery


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 503

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

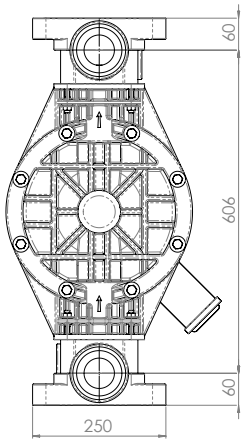
| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

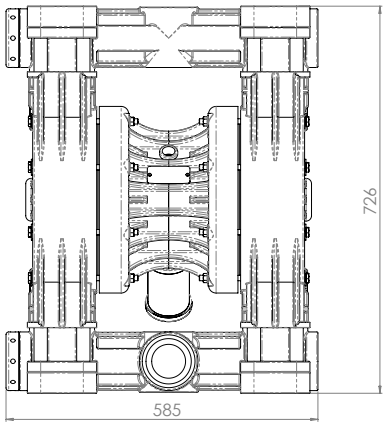
** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

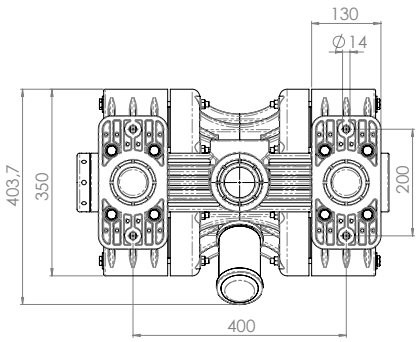
| | |
|---|---|
| Suction / delivery connections Boxer 503 | 3” f BSPP (*) |
| Suction / delivery connections FDA Boxer 503 | 4” Clamp BS 4825 |
| Air fitting | 3/4” f BSPP |
| Max. flow rate* | 800 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 10 mm |
| Noise | 80 dB |

(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

| PLASTIC MATERIAL PP (GF/CF) - PVDF | Boxer 503 |
|---|---|
| **Maximum dimensions** | |
| Height | 726 mm |
| Width | 585 mm |
| Depth | 404 mm |
| **Construction mat. (casing and manifolds) and net weight** | |
| **POLYPROPYLENE (with glass additive)** | 50 Kg<br>Temp. 3°C min.<br>65°C max |
| **CONDUCTIVE POLYPROPYLENE (with carbon additive)** | 50 Kg<br>Temp. 3°C min.<br>65°C max |
| **PVDF (with carbon additive)** | 67 Kg<br>Temp. 3°C min.<br>95°C max |




AIR-OPERATED DOUBLE DIAPHRAGM PUMPS
DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

# Boxer 503

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | |
|---|---|
| Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| Zone M2 | I M2 Ex h I Mb X * |
| IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

### METAL MATERIAL - ALU — Boxer 503

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **ALU** | 66 Kg<br>Temp. 3°C min.<br>95°C max |

### METAL MATERIAL - AISI 316 — Boxer 503

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

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316** | 71 Kg<br>Temp. 3°C min.<br>95°C max |

## FDA BOXER 503

### METAL MATERIAL - AISI 316 — FDA Boxer 503

| Maximum dimensions | |
|---|---|
| Height | 840 mm |
| Width | 546 mm |
| Depth | 403 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| **AISI 316 (electropolished)** | 71 Kg<br>Temp. 3°C min.<br>95°C max |


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 503

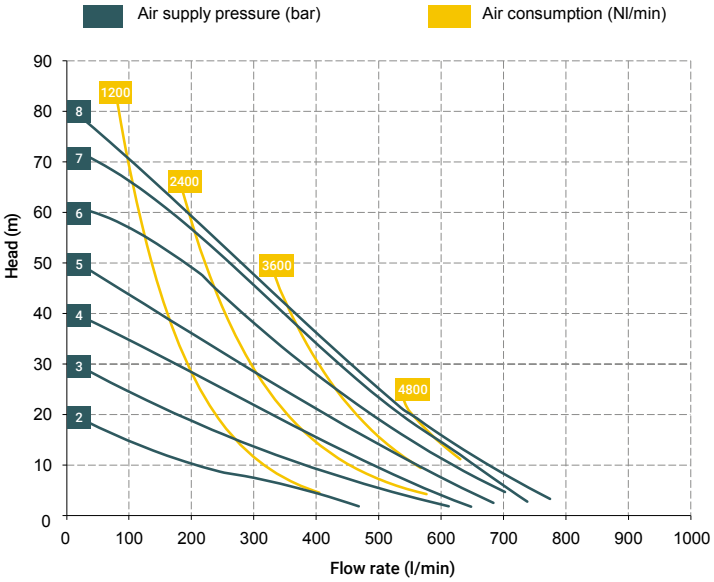
2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

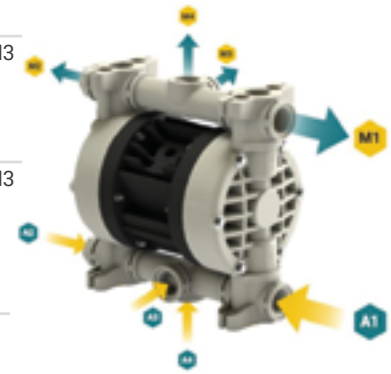



### BOXER 503 (PP):

A1 - A2 - A3 - A4 - M1 - M2 - M3 - M4

### BOXER 503 (PVDF):

A1 - A2 - A3 - A4 - M1 - M2 - M3 - M4



### Standard fittings:

- Suction: A1
- Delivery: M1

### BOXER 503 (INOX):

A3 - M3

### BOXER 503 (ALU):

A3 - M3

### Standard fittings:

- Suction: A3
- Delivery: M3

### T40 distributor material (compressed air circuit)

- POM

### Core material

- Polypropylene (with glass filler)
- Conductive polypropylene (with carbon filler)
- Aluminium

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR
- EPDM

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Packaging

Wooden crate - 83 x 70 x 52 cm - weight 25 Kg (PP, PP+CF, PP+PVDF)
(the weight refers only to the packaging without the pump inside)

Wooden crate - 93 x 68 x 51 cm - weight 25 Kg (ALU)
(the weight refers only to the packaging without the pump inside)

Wooden crate - 94 x 63 x 51 cm - weight 24 Kg (AISI316)
(the weight refers only to the packaging without the pump inside)

### Accessories

- Equaflux 303 (For damper materials, please refer to the technical data sheet)
- Basket filter in Polypropylene or PVDF with G 3" f/f fittings
- Foot valve
- Air regulation W8000-20-G
- Stroke counter
- Reinforcement rings
- Flange kit (DIN flanges - ANSI on request)

The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer 503

2025 OFFICIAL SPONSOR

#unboxingdebem

## Specifications and types

| | | |
|---|---|---|
| Ex | Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| | Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| | Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| | Zone M2 | I M2 Ex h I Mb X * |
| | IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.
* The mining application string does not apply to aluminium pumps in the Boxer range.

## BOXER PUMPS CODES ENCODING

ex. IB503-P-HTTPV--
Internal distributor, Boxer 503, body PP, air-side diaph. Hytrel®, product-side diaph. PTFE, AISI 316 L balls, PP ball seats, EPDM O-Ring.

| IB07- | P | H | T | T | P | V | - | - |
|---|---|---|---|---|---|---|---|---|
| **PUMP MODEL** | **PUMP BODY** | **AIR-SIDE DIAPHRAGM** | **FLUID-SIDE DIAPHRAGM** | **BALLS** | **BALL SEATS** | **O-RING** | **MANIFOLD** | **VERSION** |
| IB07 - Boxer 07<br>IB15 - Boxer 15<br>IMICR - Microboxer<br>IB35 - Boxer 35<br>IB50 - Boxer 50<br>IMIN - Miniboxer<br>IB81 - Boxer 81<br>IB90 - Boxer 90<br>IB100 - Boxer 100<br>IB150 - Boxer 150<br>IB251 - Boxer 251<br>IB252 - Boxer 252<br>IB522 - Boxer 522<br>IB502 - Boxer 502<br>IB503 - Boxer 503 | P - PP<br>PC - PP+CF<br>FC - PVDF+CF<br>A - AISI 316 (L)<br>AL - ALU | N - NBR<br>D - EPDM<br>H - Hytrel®<br>M - Santoprene® | T - PTFE | T - PTFE<br>A - AISI 316 L<br>D - EPDM<br>N - NBR | P - Polypropylene<br>F - PVDF<br>A - AISI 316 L<br>I - PE-UHMW<br>R - PPS<br>L - Aluminium | D - EPDM<br>V - Viton®<br>N - NBR<br>T - PTFE | X*<br>3*<br>Y*<br>W*<br>K* | C*<br>Z* |

Example table, for the table with the complete codes please contact the Debem sales department.

*X = split manifold
*3 = 3rd hole on the manifold
*Y = manifold with NPT fitting
*W = clamp manifold
*K = manifold with reinforcement rings
(all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = Version for IECEx Standard

Self priming

Under head


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com

BOXER

# Boxer FPC 100

2025 OFFICIAL SPONSOR

#unboxingdebem

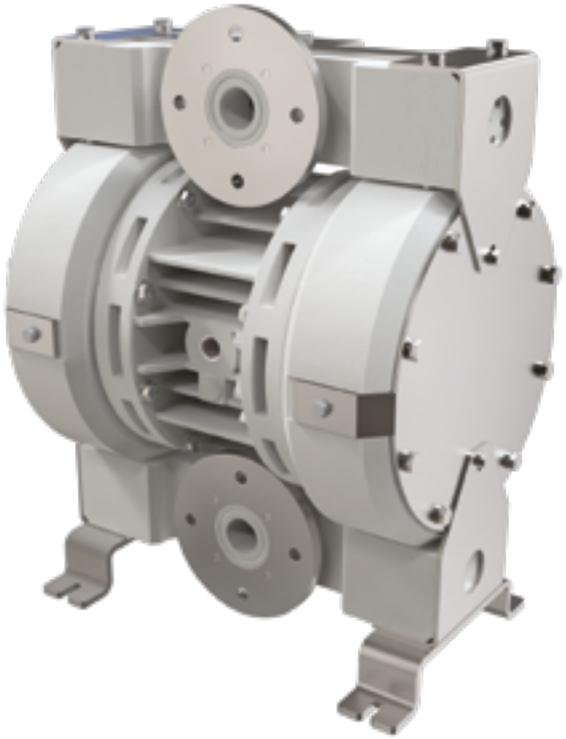
## Specifications and types

| | |
|---|---|
| Zone 2 – Zone 22 | II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X |
| Zone 1 – Zone 21 | II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X |
| Zone 1 – Zone 21 | II 2G Ex h IIC T4 Gb |
| Zone M2 | I M2 Ex h I Mb X |
| IECEx | Ex h IIB T4 Gb e Ex h IIIB T135°C Db |

** The Group IIC gas application string is applicable on Boxer series pumps in Conduct version with Conductive TFM diaphragms.

| | |
|---|---|
| Suction / delivery connections | 1”flangiati ANSI - DN 25 |
| Air fitting | 3/8” f BSPP |
| Max. flow rate* | 130 l/min |
| Max. supply air pressure | 8 bar |
| Max. head* | 80 m |
| Max negative suction head - dry-running** | 4 m |
| Max negative suction head - with pump primed | 9,5 m |
| Max. diameter suspended solids | 4 mm |
| Noise | 75 dB |

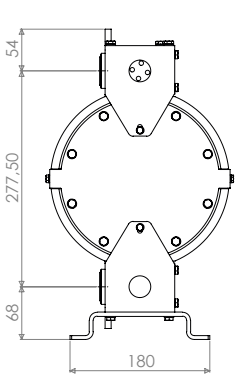
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

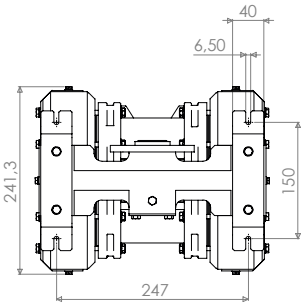


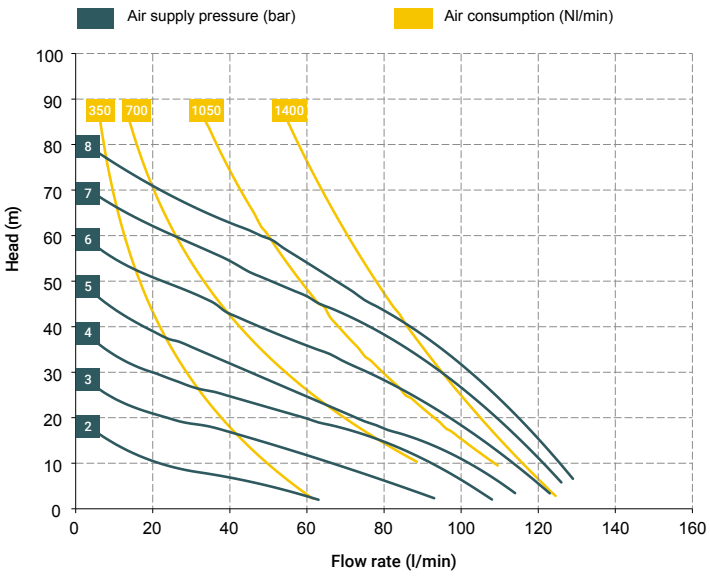
**PLASTIC MATERIAL - PTFE** | **FPC 100**

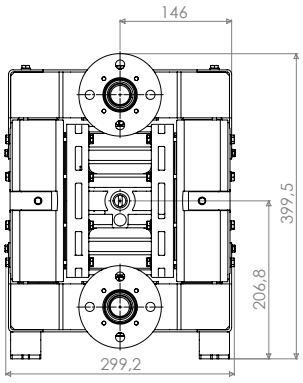
| Maximum dimensions | |
|---|---|
| Height | 399 mm |
| Width | 299 mm |
| Depth | 241 mm |

| Construction mat. (casing and manifolds) and net weight | |
|---|---|
| PTFE | 21,6 Kg |
| | Temp. 3°C min. |
| | 95°C max |




The curves and performance of the pumps have been determined in accordance with the ANSI/HI 10.6/2016 standard and may vary depending on the composition materials.

**Debem procedure**

1. The suction manifold positioned with a positive head of 50 cm.
2. The maximum length of the suction pipe is 50 cm without bends, elbows, filters, or other accessories.
3. The diameter of the suction pipe must be the same diameter as the manifold or larger.
4. The discharge pipe, including the flow meter, must not exceed 1 meter and must be the same diameter as the manifold.
5. If testing with longer pipes is necessary, pipes of larger diameter must be used, otherwise the data may be distorted.

Any colour variations in our polypropylene and PVDF products are due to the special blends of the raw materials used. The use of high levels of glass and long-fiber carbon filler result in a unique colour that does not in any way affect the quality of the product; on the contrary, it points to the high level of content used to ensure outstanding performance.


DEBEM srl - Via Del Bosco, 41 - 21052 Busto Arsizio (VA) Italy - Tel. +39 0331 074034 - Fax +39 0331 074036 - info@debem.it - www.debem.com