

# Boxer 522 / Boxer 502

## Specifications and types


 Zone 2 – Zone 22  
 Zone 1 – Zone 21  
 Zone 1 – Zone 21  
 Zone M2  
 IECEX

 II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X  
 II 2G Ex h IIB T4 Gb e II 2D Ex h IIIB T135°C Db X  
 II 2G Ex h IIC T4 Gb  
 I M2 Ex h I Mb X \*  
 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 |

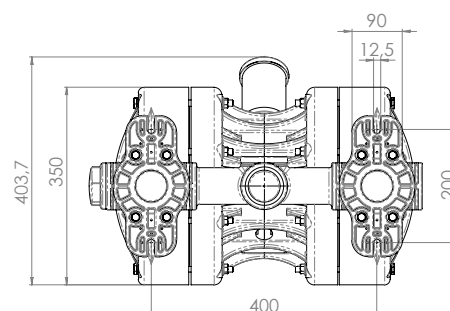
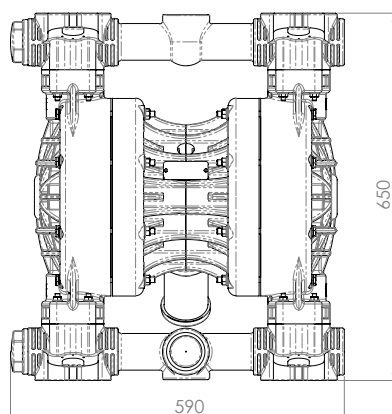
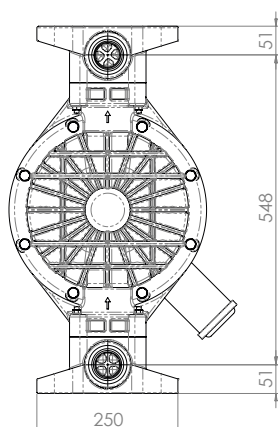


#### Construction mat. (casing and manifolds) and net weight

|                                               |                            |
|-----------------------------------------------|----------------------------|
| <b>POLYPROPYLENE</b><br>(with glass additive) | 38 Kg                      |
|                                               | Temp. 3°C min.<br>65°C max |

|                                                           |                            |
|-----------------------------------------------------------|----------------------------|
| <b>CONDUCTIVE POLYPROPYLENE</b><br>(with carbon additive) | 38 Kg                      |
|                                                           | Temp. 3°C min.<br>65°C max |

|                                       |                            |
|---------------------------------------|----------------------------|
| <b>PVDF</b><br>(with carbon additive) | 45 Kg                      |
|                                       | Temp. 3°C min.<br>95°C max |



# Boxer 522 / Boxer 502

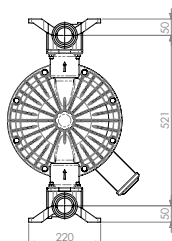
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Zone M2  
IECEX

II 3G Ex h IIB T4 Gc e II 3D Ex h IIIB T135°C Dc X  
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### METAL MATERIAL - ALU

### Boxer 502



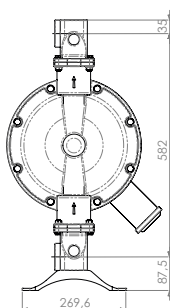
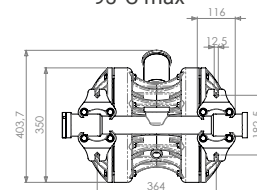
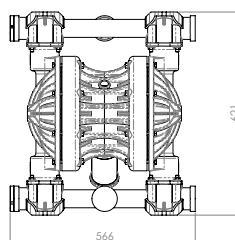
#### Maximum dimensions

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



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

|     |                |
|-----|----------------|
| ALU | 49 Kg          |
|     | Temp. 3°C min. |
|     | 95°C max       |



### METAL MATERIAL - AISI 316

### Boxer 502



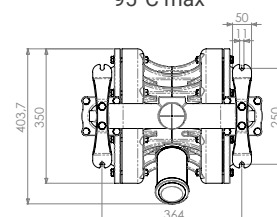
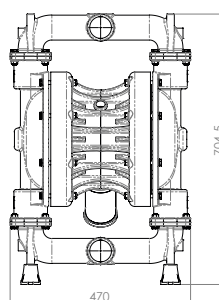
#### Maximum dimensions

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



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

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

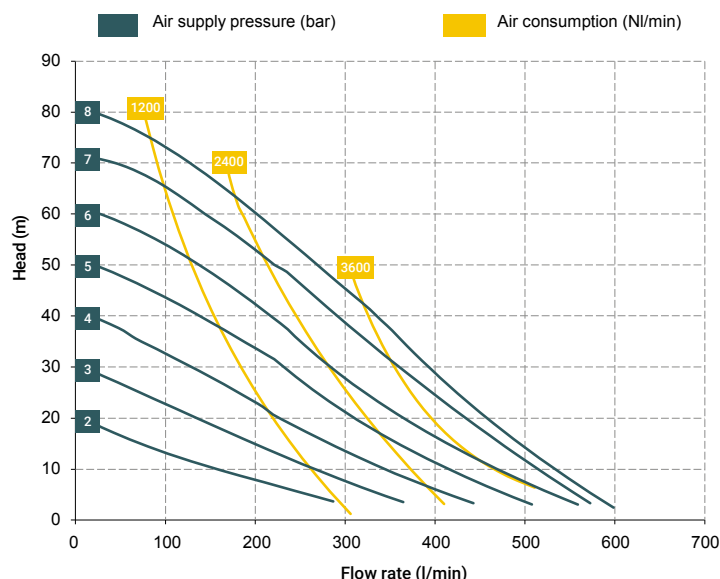
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## T40 distributor material (compressed air circuit)

- 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.

## 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



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## 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)

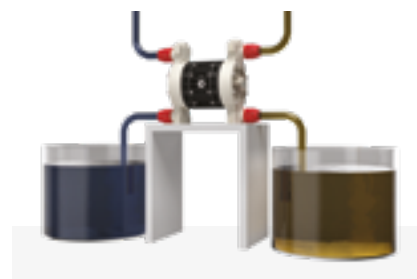
C = CONDUCT version for ATEX ZONE 1  
Z = Version for IECEx Standard



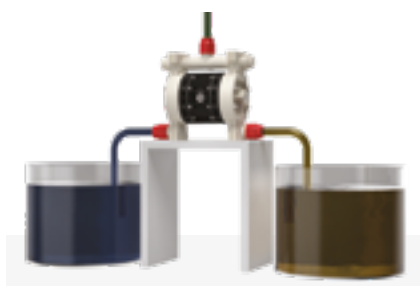
Self priming



Under head



Split Suction



Split Suction and Delivery