

# Boxer 7



## Specifications and types



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

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

Ex h IIB T4 Gb e Ex h IIB 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

<b>POLYPROPYLENE</b> (with glass additive)	0,7 Kg Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	0,7 Kg Temp. 3°C min. 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

<b>PVDF</b> (with carbon additive)	0,7 Kg Temp. 3°C min. 95°C max
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# Boxer 7



## Specifications and types

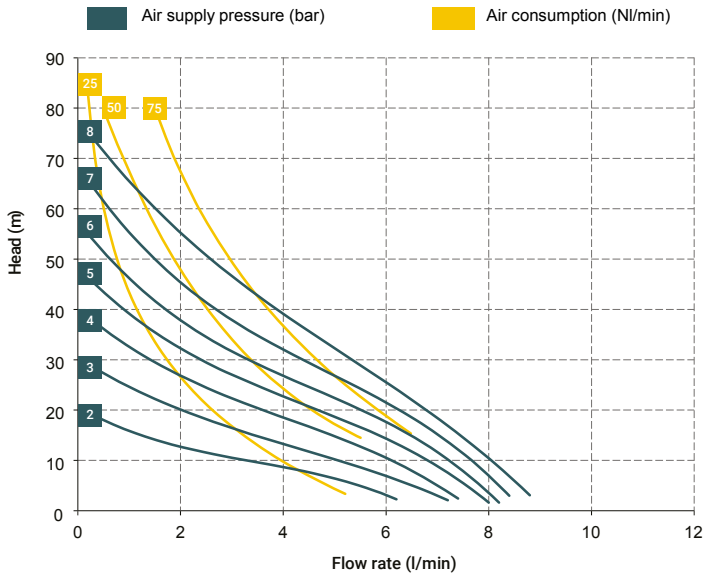


Zone 2 - Zone 22  
Zone 1 - Zone 21  
Zone M2

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

Ex h IIB T4 Gb e Ex h IIB T135°C Db

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



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

### 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

### 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

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

### BOXER 07 (PP):

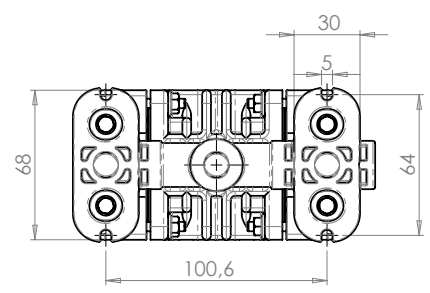
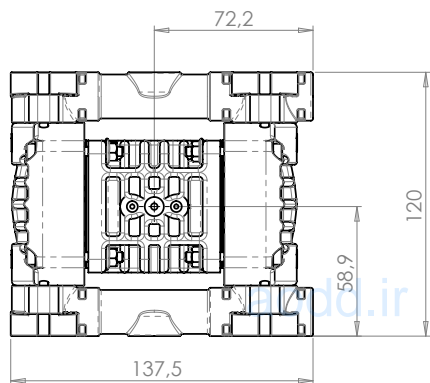
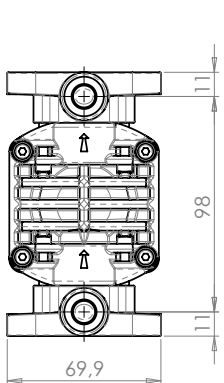
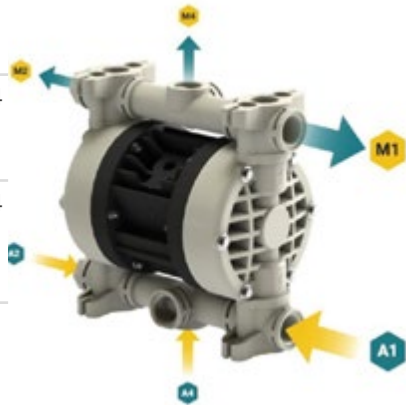
A1 - A2 - A4 - M1 - M2- M4

### BOXER 07 (PVDF):

A1 - A2 - A4 - M1 - M2- M4

### Standard fittings:

- Suction: A1
- Delivery: M1



# Boxer 7



## 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* 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)

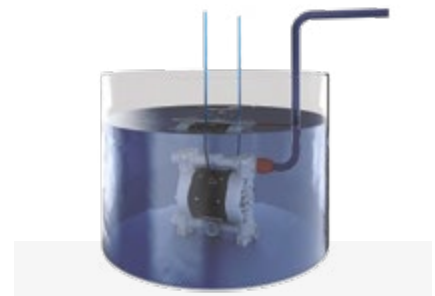
C = CONDUCT version for ATEX ZONE 1  
 Z = Version for IECEx Standard



Self priming



Under head



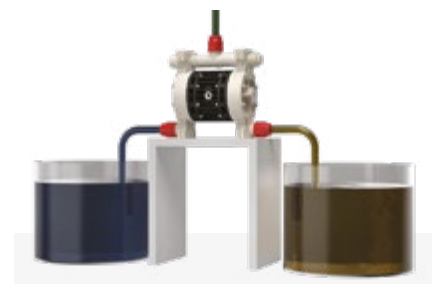
Immersed



Drum Transfer



Split Suction



Split Suction and Delivery

# Boxer 15



## 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 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

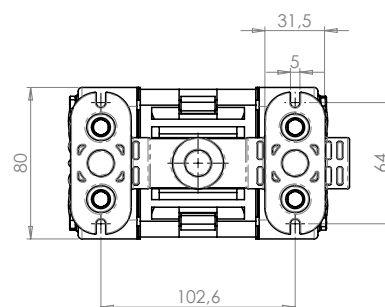
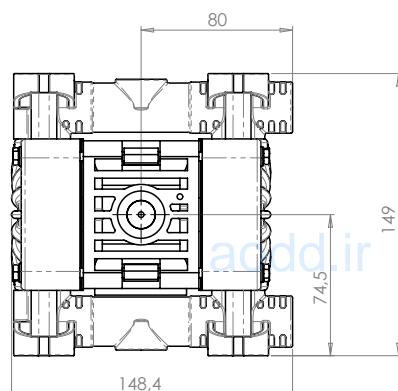
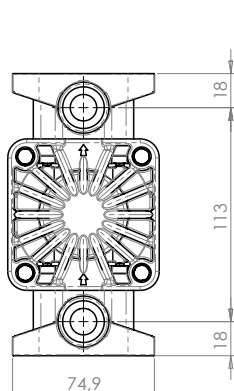
\* Curves and performance refer to pumps with submerged suction and free delivery port, with water at 20°C and vary depending on material composition.

\*\* 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	
<b>POLYPROPYLENE (with glass filler)</b>	1,1 Kg Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE (with carbon filler)</b>	1,1 Kg Temp. 3°C min. 65°C max
<b>PVDF (with carbon filler)</b>	1,4 Kg Temp. 3°C min. 95°C max





# Boxer 15



## 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 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



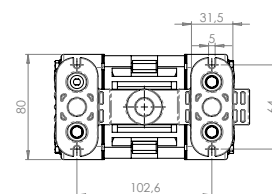
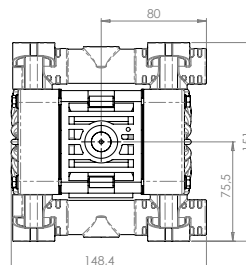
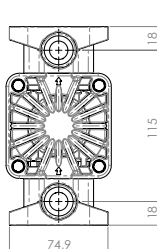
#### Maximum dimensions

Height	151 mm
Width	148 mm
Depth	80 mm



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

ALU	1,9 Kg
	Temp. 3°C min.
	95°C max



### METAL MATERIAL - AISI 316 L

### Boxer 15



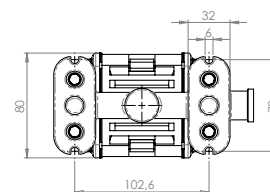
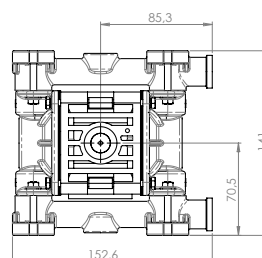
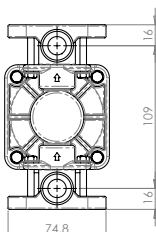
#### Maximum dimensions

Height	141 mm
Width	153 mm
Depth	80 mm



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

AISI 316 L	2,4 Kg
	Temp. 3°C min.
	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

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

AISI 316 L	2,4 Kg
	Temp. 3°C min.
	95°C max

# Boxer 15



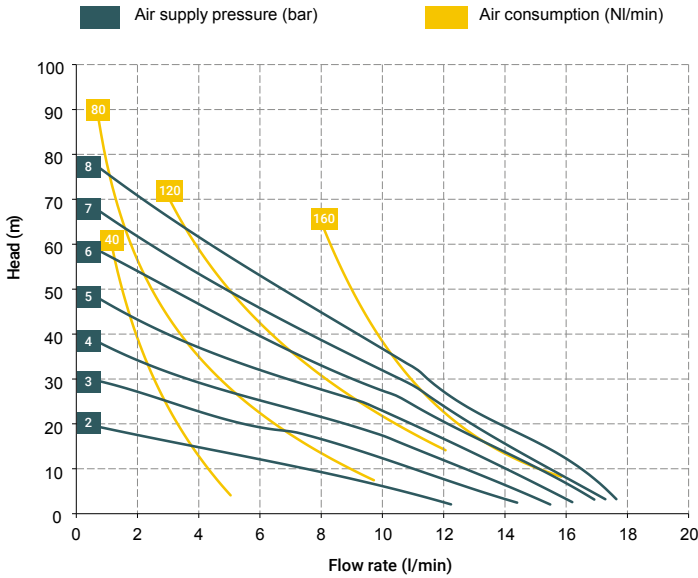
## Specifications and types



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 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



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

### BOXER 15 (PP):

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

### BOXER 15 (PVDF):

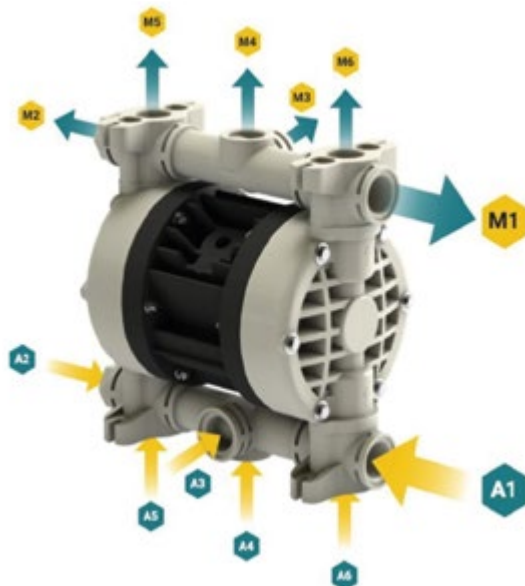
A1 - A2 - A4 - A5 - A6 - M1 - M2- M4 - M5 - M6

### 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

- Equaflex 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)

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.

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# Boxer 15



## 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 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* 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



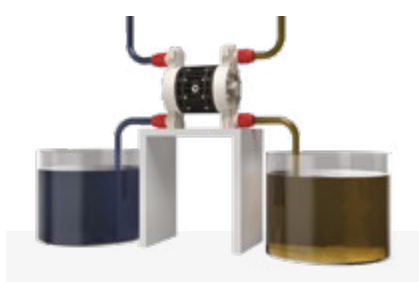
Self priming



Under head



Drum Transfer



Split Suction and Delivery



Split Suction

# Boxer 35



## Specifications and types



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

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

Ex h IIB T4 Gb e Ex h IIB T135°C Db

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

Suction / delivery connections	1/2" f BSPP (*)
Air fitting	3/8" f BSPP
Max. flow rate*	35 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	2 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 35



#### Maximum dimensions

Height	168 mm
Width	288 mm
Depth	120 mm



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

<b>POLYPROPYLENE</b> (with glass additive)	1,8 Kg Temp. 3°C min. 65°C max
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<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	Temp. 3°C min. 65°C max
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### PLASTIC MATERIAL - PVDF

### Boxer 35



#### Maximum dimensions

Height	168 mm
Width	288 mm
Depth	120 mm



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

<b>PVDF</b> (with carbon additive)	1,98 Kg Temp. 3°C min. 95°C max
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# Boxer 35



## Specifications and types

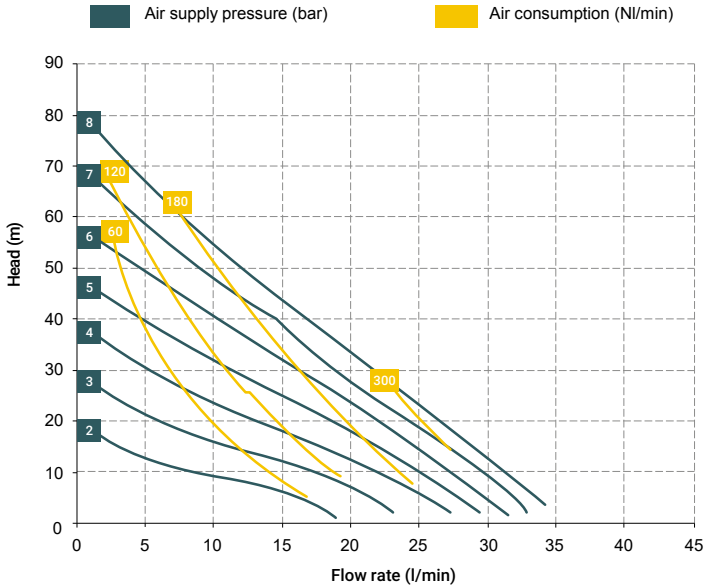


Zone 2 - Zone 22  
Zone 1 - Zone 21  
Zone M2

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  
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



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

### BOXER 35 (PP):

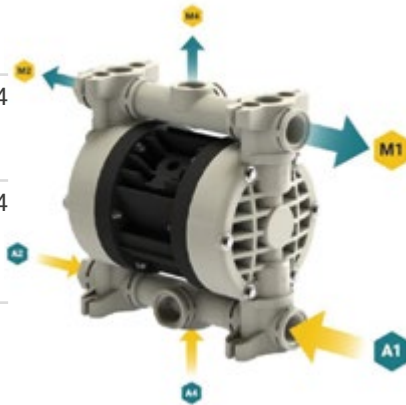
A1 - A2 - A4 - M1 - M2 - M4

### BOXER 35 (PVDF):

A1 - A2 - A4 - M1 - M2 - M4

### Standard fittings:

- Suction: A1
- Delivery: M1



### MONOSTABLE distributor material (Distributor + spool) - (compressed air circuit)

- POM

### Core material

- Polypropylene
- PP+CF

### Diaphragm materials

- PTFE
- HYTREL®
- SANTOPRENE
- NBR

### Cap materials

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

### Ball materials

- PTFE
- AISI 316 L
- EPDM
- NBR

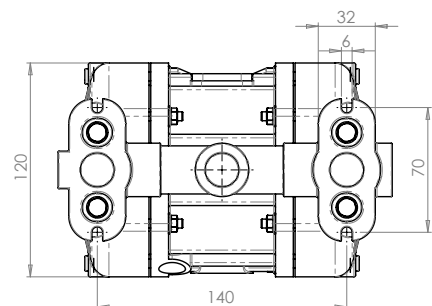
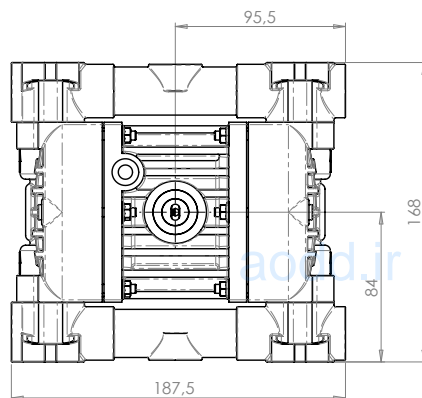
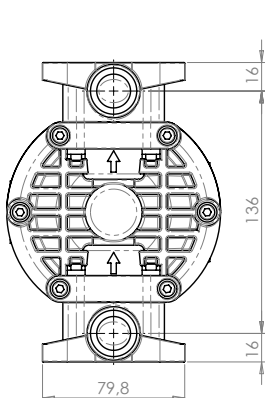
### O-ring materials

- EPDM
- NBR
- VITON®
- PTFE

### Accessories

- Equaflux 51 (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)

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 35



## 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. IMICR-P-HTTPV-  
 Internal distributor, Boxer 35, 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* 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



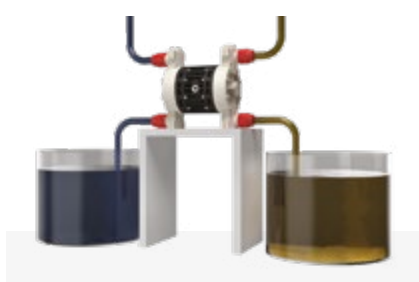
Self priming



Under head



Drum Transfer



Split Suction and Delivery



Split Suction



# Boxer 50 / Miniboxer



## 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.

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



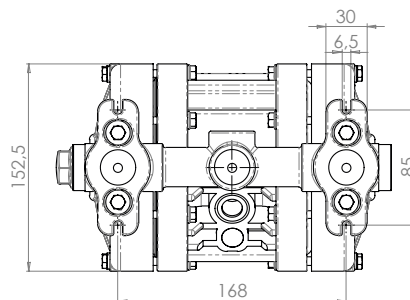
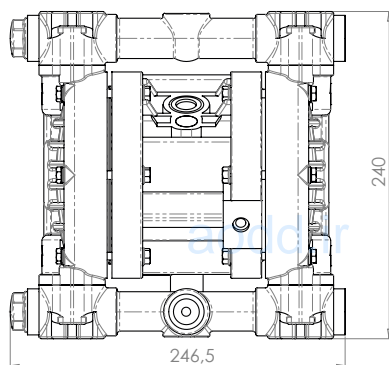
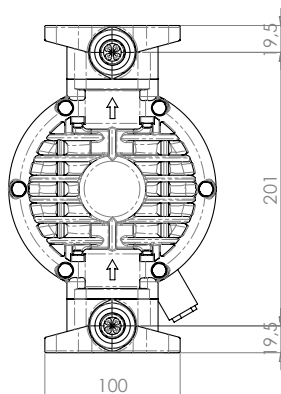
#### Maximum dimensions

Height	240 mm
Width	246 mm
Depth	153 mm



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

<b>POLYPROPYLENE (with glass additive)</b>	3,6 Kg
	Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE (with carbon additive)</b>	3,6 Kg
	Temp. 3°C min. 65°C max
<b>PVDF (with carbon additive)</b>	4,2 Kg
	Temp. 3°C min. 95°C max



# Boxer 50 / Miniboxer



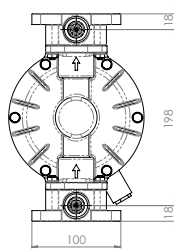
## Specifications and types



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.



### METAL MATERIAL - ALU

### Boxer 50



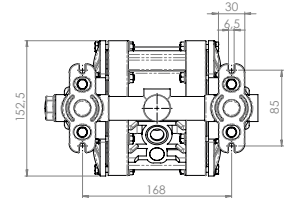
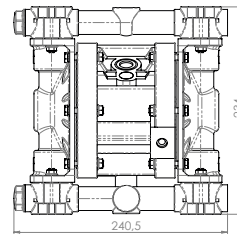
#### Maximum dimensions

Height	234 mm
Width	241 mm
Depth	153 mm

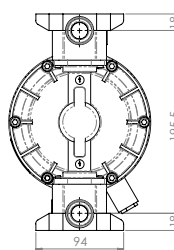


#### Construction mat. (casing and manifolds) and net weight

PVDF (with carbon additive)	4 Kg Temp. 3°C min. 95°C max
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## MINIBOXER



### METAL MATERIAL - AISI 316 L

### Miniboxer



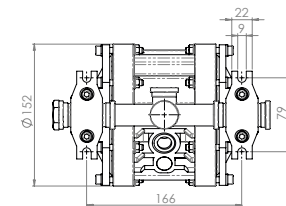
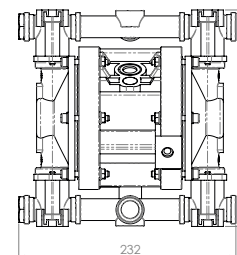
#### Maximum dimensions

Height	232 mm
Width	232 mm
Depth	152 mm



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

AISI 316 L	6,5 Kg Temp. 3°C min. 95°C max
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## FDA BOXER 50



### METAL MATERIAL - AISI 316 L

### FDA Boxer 50



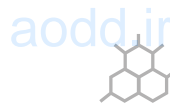
#### Maximum dimensions

Height	260 mm
Width	262 mm
Depth	152 mm



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

AISI 316 L	6 Kg Temp. 3°C min. 95°C max
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# Boxer 50 / Miniboxer



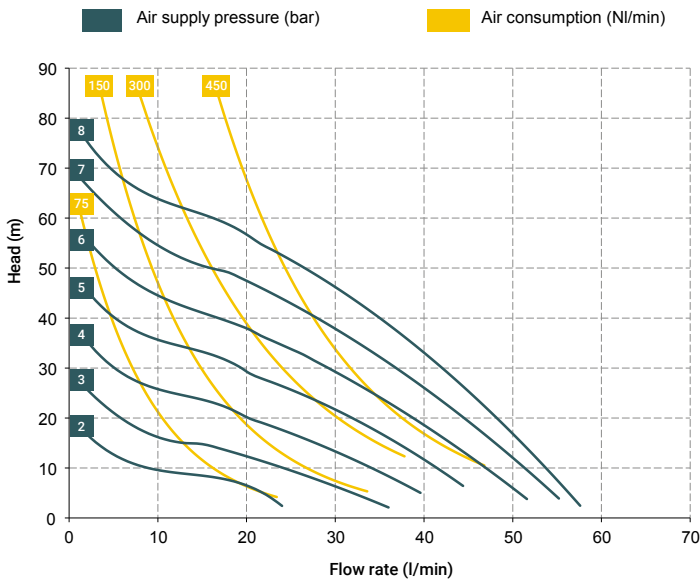
## Specifications and types



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 IIB T135°C Dc X  
II 2G Ex h IIB T4 Gb e II 2D Ex h IIB 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 IIB 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.



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

### BOXER 50 (PP):

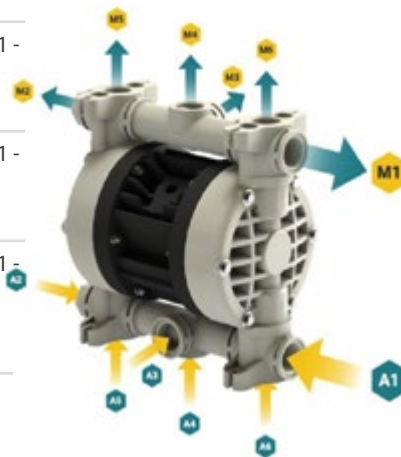
A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

### 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

- Equaflex 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)

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 50 / Miniboxer



## 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.

## 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	P - PP	N - NBR	T - PTFE	T - PTFE	P - Polypropylene	D - EPDM	X*	C*
IB15 - Boxer 15	PC - PP+CF	D - EPDM		A - AISI 316 L	F - PVDF	V - Viton®	3*	Z*
IMICR - Microboxer	FC - PVDF+CF	H - Hytrel®		D - EPDM	A - AISI 316 L	N - NBR	Y*	
IB35 - Boxer 35	A - AISI 316 (L)	M - Santoprene®		N - NBR	I - PE-UHMW	T - PTFE	W*	
IB50 - Boxer 50	AL - ALU				R - PPS		K*	
IMIN - Miniboxer					L - Aluminium			
IB81 - Boxer 81								
IB90 - Boxer 90								
IB100 - Boxer 100								
IB150 - Boxer 150								
IB251 - Boxer 251								
IB252 - Boxer 252								
IB522 - Boxer 522								
IB502 - Boxer 502								
IB503 - Boxer 503								

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)

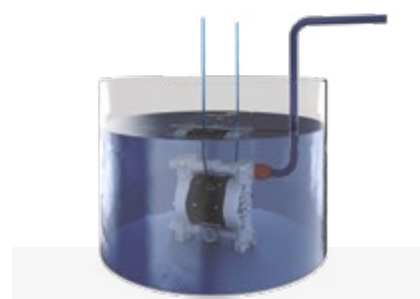
C = CONDUCT version for ATEX Zone 1  
 Z = Version for IECEx Standard



Under head



Montée en charge



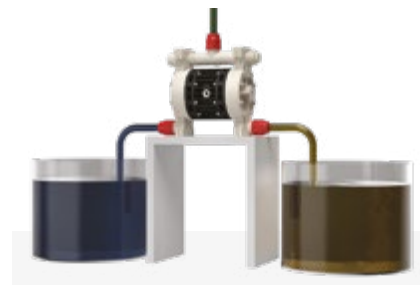
Immersed



Drum Transfer



Split Suction and Delivery



Split Suction

# Boxer 81 / Boxer 90



## 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 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



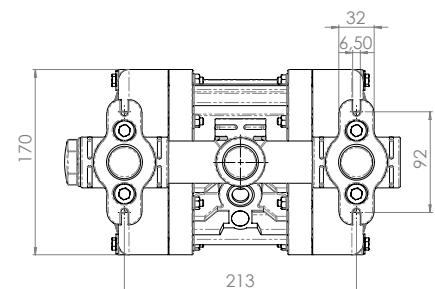
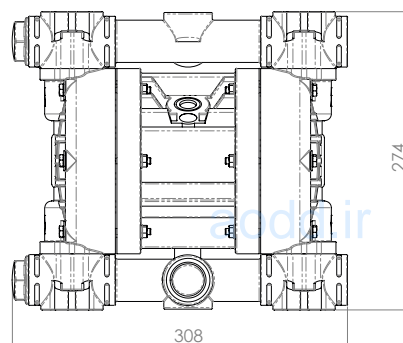
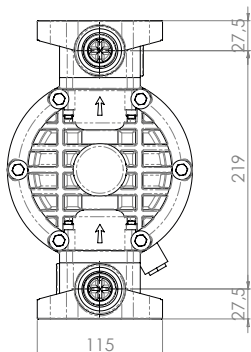
#### Maximum dimensions

Height	274 mm
Width	308 mm
Depth	170 mm



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

<b>POLYPROPYLENE</b> (with glass additive)	5 Kg Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	5 Kg Temp. 3°C min. 65°C max
<b>PVDF</b> (with carbon additive)	6,5 Kg Temp. 3°C min. 95°C max





# Boxer 81 / Boxer 90



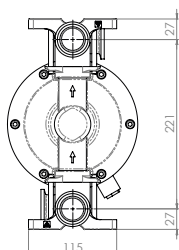
## Specifications and types



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.



### METAL MATERIAL - AISI 316

### Boxer 81



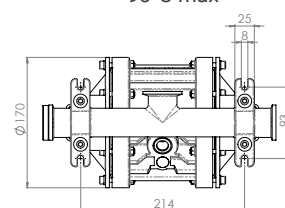
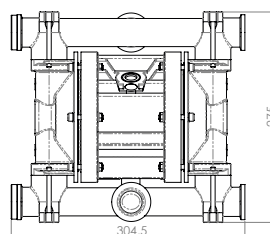
#### Maximum dimensions

Height	275 mm
Width	305 mm
Depth	170 mm



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

AISI 316	10,6 Kg
	Temp. 3°C min.
	95°C max



## FDA BOXER 81



### METAL MATERIAL - AISI 316 L

### FDA Boxer 81



#### Maximum dimensions

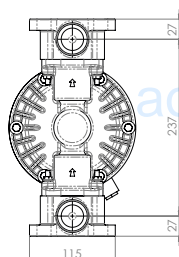
Height	305 mm
Width	315 mm
Depth	170 mm



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

AISI 316 L	10,6 Kg
	Temp. 3°C min.
	95°C max

## BOXER 90



### METAL MATERIAL - ALU

### Boxer 90



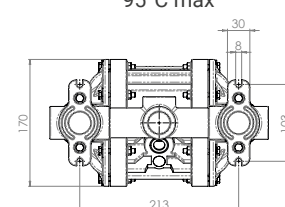
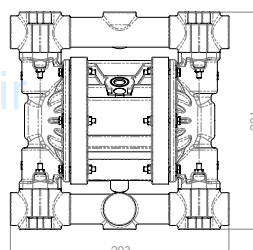
#### Maximum dimensions

Height	291 mm
Width	293 mm
Depth	170 mm



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

ALU	7 Kg
	Temp. 3°C min.
	95°C max





# Boxer 81 / Boxer 90



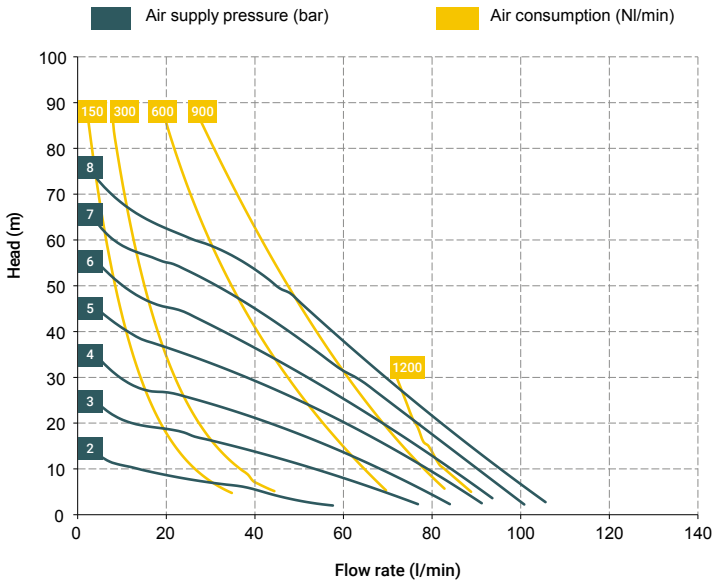
## Specifications and types



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.



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

### 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)

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 81 / Boxer 90



## 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.

## 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* Z*

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



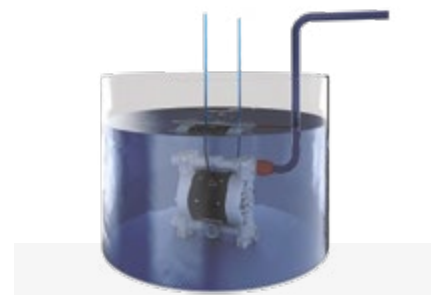
\*X = split manifold  
\*3 = 3rd hole on the manifold  
\*Y = manifold with NPT fitting  
\*W = clamp manifold  
\*K = manifold with reinforcement rings (all on request only)  
C = CONDUCT version for ATEX ZONE 1  
Z = Version for IECEx Standard



Self priming



Under head



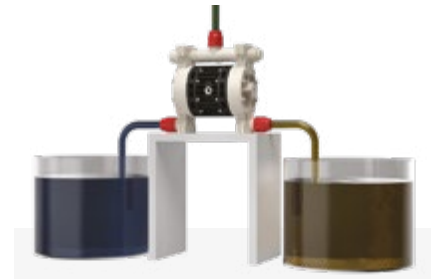
Immersed



Drum Transfer



Split Suction



Split Suction and Delivery

# Boxer 100



## 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 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

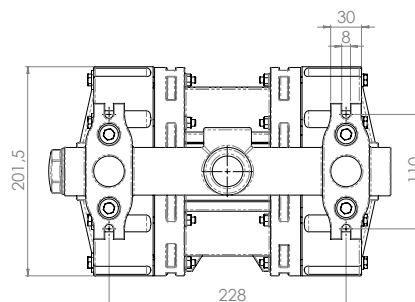
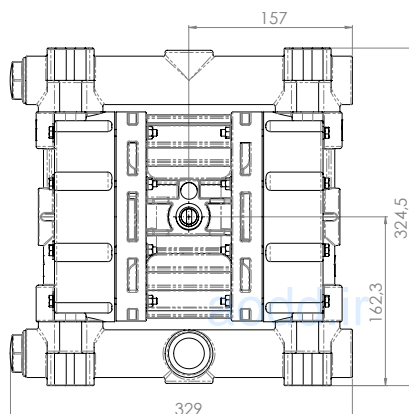
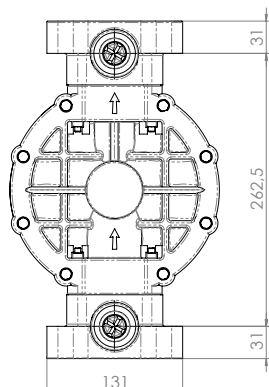


#### Construction mat. (casing and manifolds) and net weight

<b>POLYPROPYLENE (with glass additive)</b>	7,5 Kg Temp. 3°C min. 65°C max
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<b>CONDUCTIVE POLYPROPYLENE (with carbon additive)</b>	7,5 Kg Temp. 3°C min. 65°C max
--	--------------------------------------

<b>PVDF (with carbon additive)</b>	8,5 Kg Temp. 3°C min. 95°C max
------------------------------------	--------------------------------------



# Boxer 100



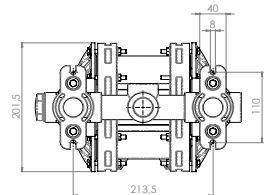
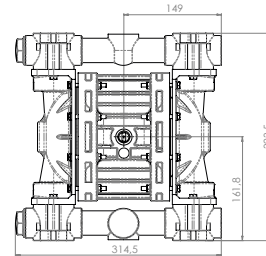
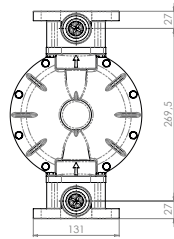
## Specifications and types



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.



### METAL MATERIAL - ALU

### Boxer 100



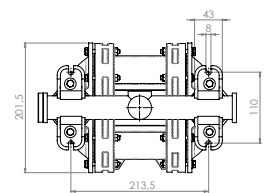
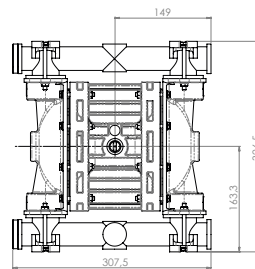
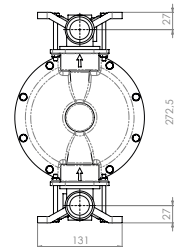
#### Maximum dimensions

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



### METAL MATERIAL - AISI 316 L

### FDA Boxer 100



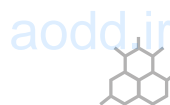
#### Maximum dimensions

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



# Boxer 100

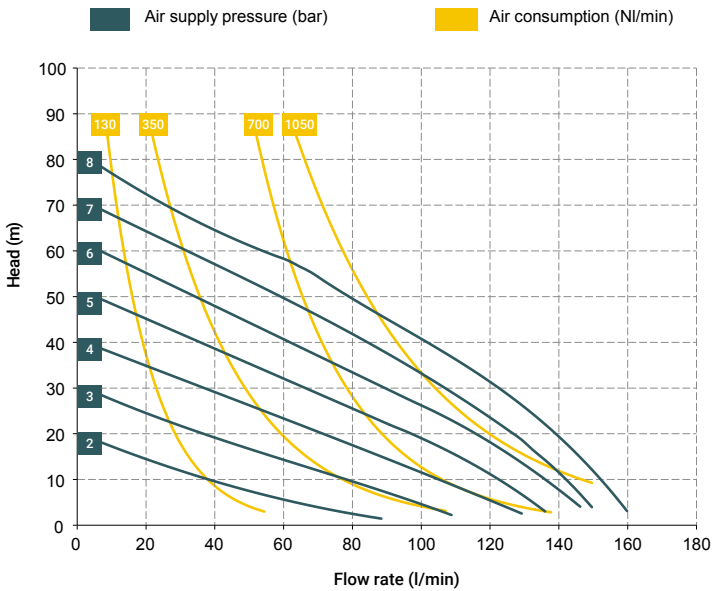


## Specifications and types

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 IIB T135°C Dc X  
 II 2G Ex h IIB T4 Gb e II 2D Ex h IIB 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 IIB 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.



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

### 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

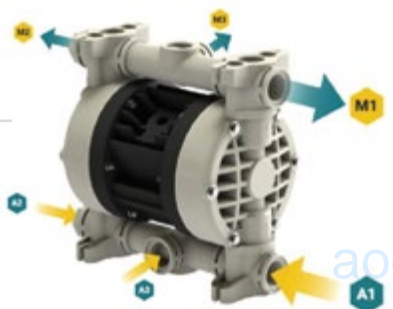


### BOXER 100 (INOX):

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)

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 100



## 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.

## 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* Z*

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



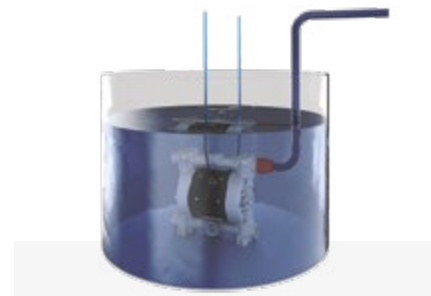
\*X = split manifold  
\*3 = 3rd hole on the manifold  
\*Y = manifold with NPT fitting  
\*W = clamp manifold  
\*K = manifold with reinforcement rings (all on request only)  
C = CONDUCT version for ATEX ZONE 1  
Z = Version for IECEx Standard



Self priming



Under head



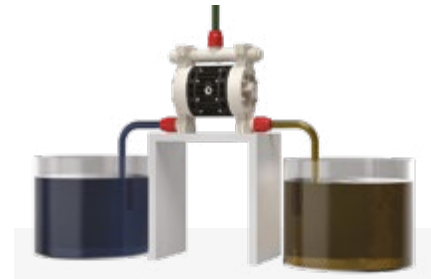
Immersed



Drum Transfer



Split Suction



Split Suction and Delivery



# Boxer 150



## 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 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



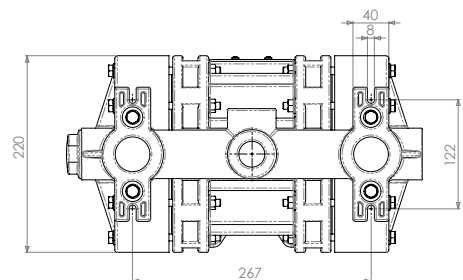
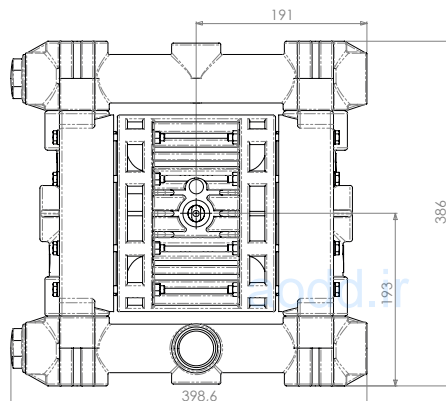
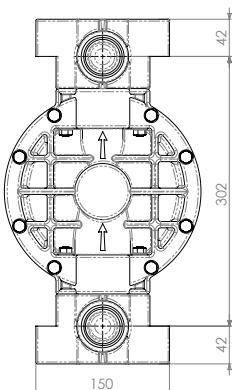
#### Maximum dimensions

Height	386 mm
Width	399 mm
Depth	220 mm



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

<b>POLYPROPYLENE</b> (with glass additive)	12 Kg Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	12 Kg Temp. 3°C min. 65°C max
<b>PVDF</b> (with carbon additive)	14 Kg Temp. 3°C min. 95°C max



# Boxer 150



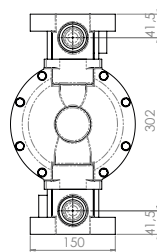
## Specifications and types



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 IIB T135°C Dc X  
II 2G Ex h IIB T4 Gb e II 2D Ex h IIB 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 IIB 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



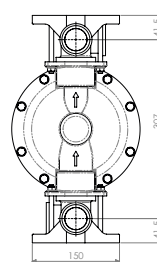
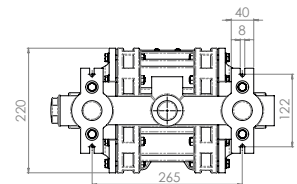
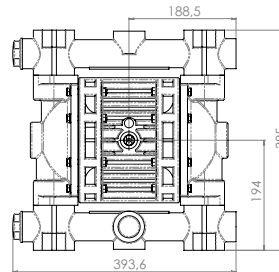
#### Maximum dimensions

Height	385 mm
Width	394 mm
Depth	220 mm



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

ALU	16 Kg
	Temp. 3°C min.
	95°C max



### METAL MATERIAL - AISI 316

### Boxer 150



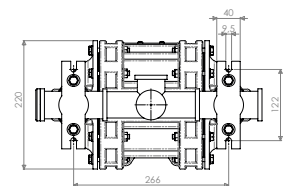
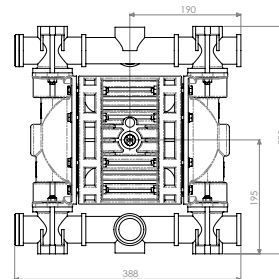
#### Maximum dimensions

Height	390 mm
Width	388 mm
Depth	220 mm



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

AISI 316	21 Kg
	Temp. 3°C min.
	95°C max



## FDA BOXER 150



### METAL MATERIAL - AISI 316 L

### FDA Boxer 150



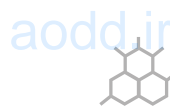
#### Maximum dimensions

Height	404 mm
Width	450 mm
Depth	220 mm



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

AISI 316	23 Kg
	Temp. 3°C min.
	95°C max



# Boxer 150



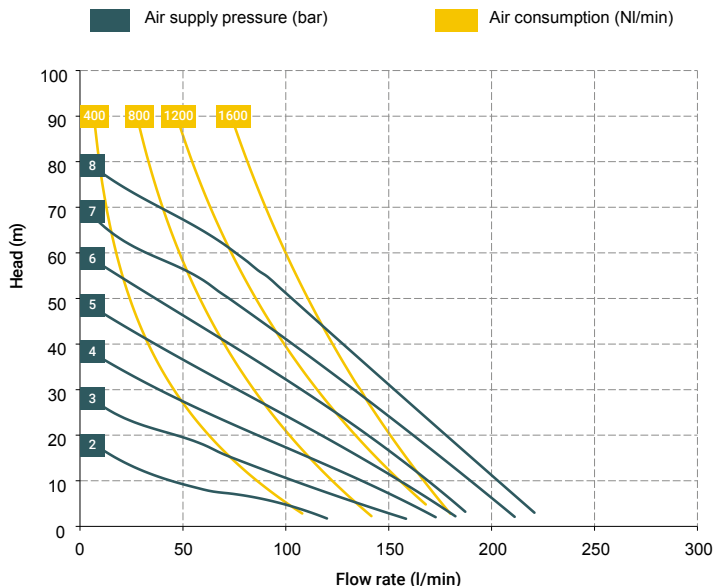
## Specifications and types



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.



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

### 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)

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 150



#unboxingtebem

## 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.

## 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* 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)

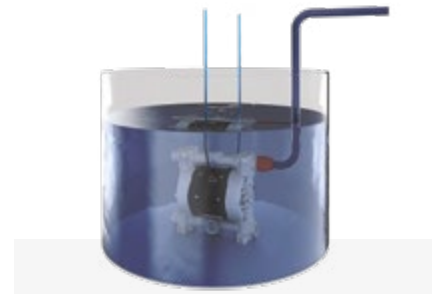
C = CONDUCT version for ATEX ZONE 1  
Z = Version for IECEX Standard



Self priming



Under head



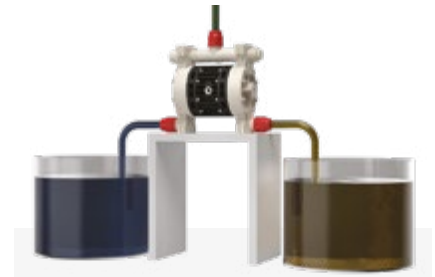
Immersed



Drum Transfer



Split Suction



Split Suction and Delivery

# Boxer 251 / Boxer 252



## 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.

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

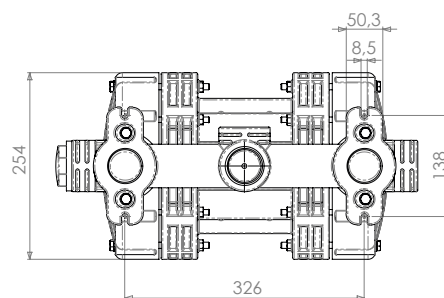
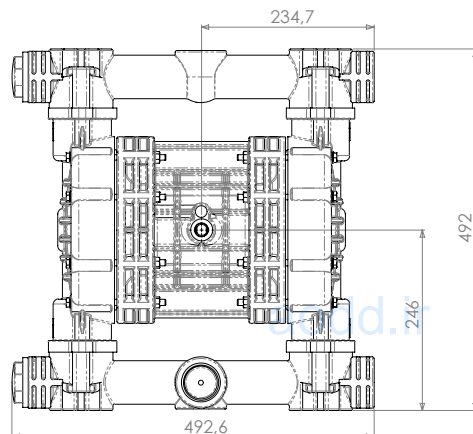
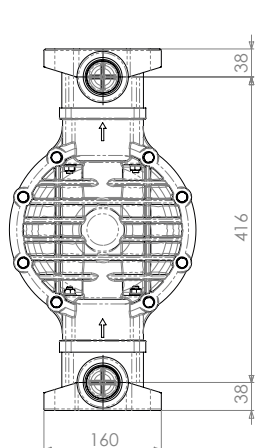


#### Construction mat. (casing and manifolds) and net weight

<b>POLYPROPYLENE</b> (with glass additive)	16 Kg Temp. 3°C min. 65°C max
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<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	16 Kg Temp. 3°C min. 65°C max
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<b>PVDF</b> (with carbon additive)	20 Kg Temp. 3°C min. 95°C max
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# Boxer 251 / Boxer 252

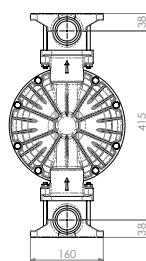
## Specifications and types



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.



### METAL MATERIAL - ALU

### Boxer 251



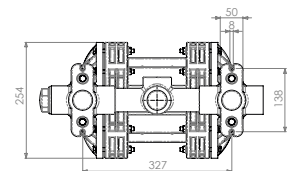
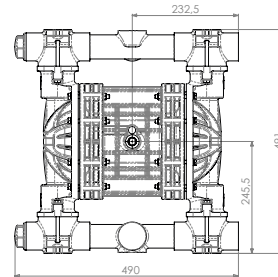
#### Maximum dimensions

Height	491 mm
Width	490 mm
Depth	254 mm

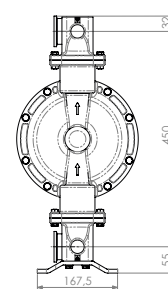


#### Construction mat. (casing and manifolds) and net weight

ALU	21 Kg
	Temp. 3°C min.
	95°C max



## BOXER 252



### METAL MATERIAL - AISI 316

### Boxer 252



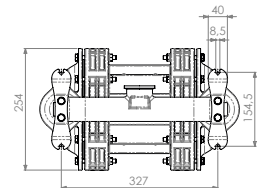
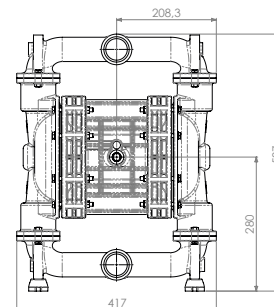
#### Maximum dimensions

Height	537 mm
Width	417 mm
Depth	254 mm



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

AISI 316	32 Kg
	Temp. 3°C min.
	95°C max



## FDA BOXER 252



### METAL MATERIAL - AISI 316 L

### FDA Boxer 252



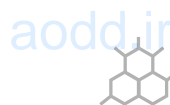
#### Maximum dimensions

Height	560 mm
Width	417 mm
Depth	254 mm



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

AISI 316	26,2 Kg
	Temp. 3°C min.
	95°C max





# Boxer 251 / Boxer 252

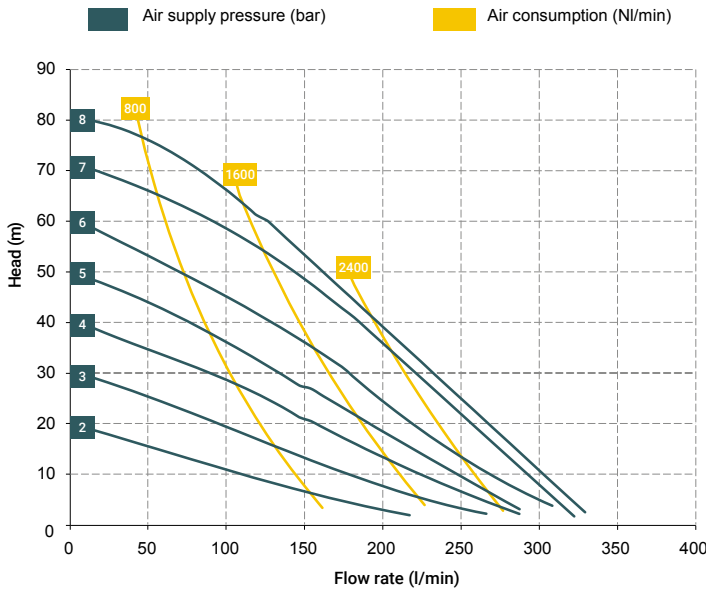
## Specifications and types



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.



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

### 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)

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.

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# Boxer 251 / Boxer 252



## 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.

## 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* 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)

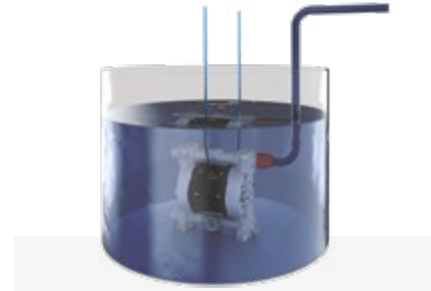
C = CONDUCT version for ATEX ZONE 1  
Z = Version for IECEx Standard



Self priming



Under head



Immersed



Split Suction



Split Suction and Delivery

# Boxer 503



## 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 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



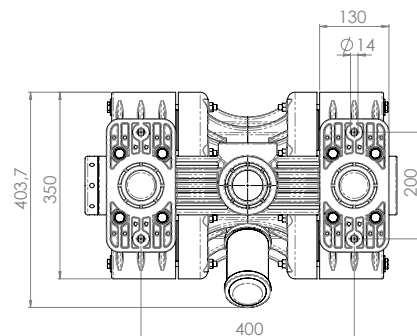
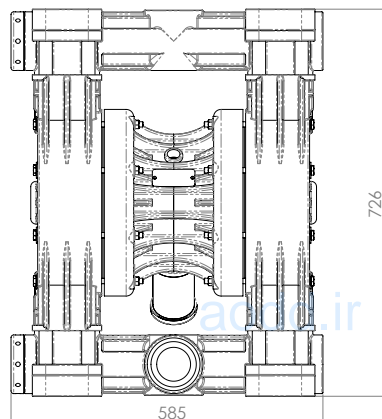
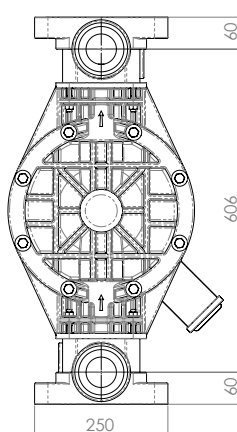
#### Maximum dimensions

Height	726 mm
Width	585 mm
Depth	404 mm



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

<b>POLYPROPYLENE</b> (with glass additive)	50 Kg Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	50 Kg Temp. 3°C min. 65°C max
<b>PVDF</b> (with carbon additive)	67 Kg Temp. 3°C min. 95°C max



# Boxer 503



## 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.



### 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
	Temp. 3°C min.
	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
	Temp. 3°C min.
	95°C max

## FDA BOXER 503



### METAL MATERIAL - AISI 316 L

### 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
	Temp. 3°C min.
	95°C max

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# Boxer 503



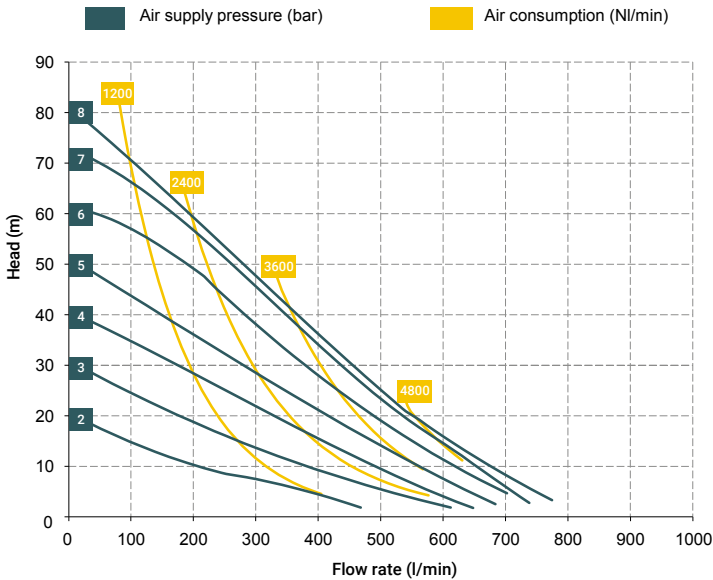
## Specifications and types



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 IIB T135°C Dc X  
II 2G Ex h IIB T4 Gb e II 2D Ex h IIB 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 IIB 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.



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

### BOXER 503 (PP):

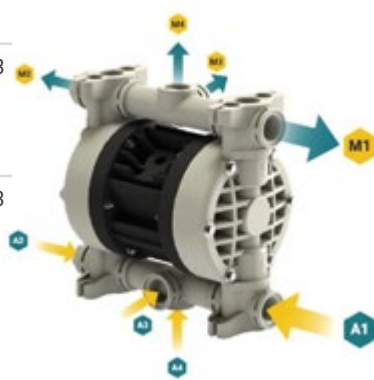
A1 - A2 - A3 - A4 - M1 - M2 - M3 - M4

### 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 (AIS1316)  
(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)

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 503



#unboxingdebem

## 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.

## 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	P - PP	N - NBR	T - PTFE	T - PTFE	P - Polypropylene	D - EPDM	X*	C*
IB15 - Boxer 15	PC - PP+CF	D - EPDM		A - AISI 316 L	F - PVDF	V - Viton®	3*	Z*
IMICR - Microboxer	FC - PVDF+CF	H - Hytrel®		D - EPDM	A - AISI 316 L	N - NBR	Y*	
IB35 - Boxer 35	A - AISI 316 (L)	M - Santoprene®		N - NBR	I - PE-UHMW	T - PTFE	W*	
IB50 - Boxer 50	AL - ALU				R - PPS		K*	
IMIN - Miniboxer					L - Aluminium			
IB81 - Boxer 81								
IB90 - Boxer 90								
IB100 - Boxer 100								
IB150 - Boxer 150								
IB251 - Boxer 251								
IB252 - Boxer 252								
IB522 - Boxer 522								
IB502 - Boxer 502								
IB503 - Boxer 503								

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

# 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



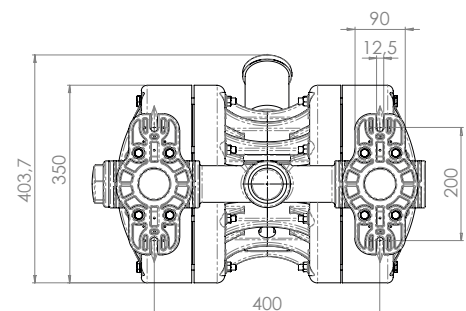
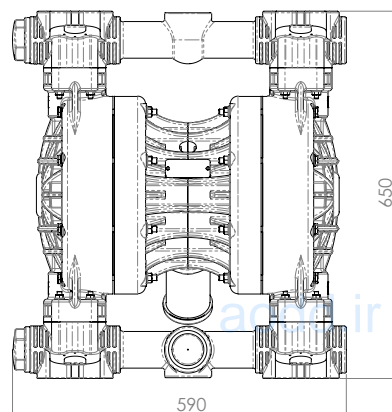
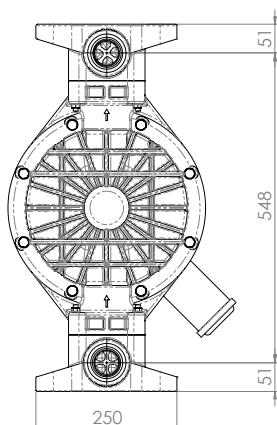
#### Maximum dimensions

Height	650 mm
Width	590 mm
Depth	404 mm



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

<b>POLYPROPYLENE</b> (with glass additive)	38 Kg Temp. 3°C min. 65°C max
<b>CONDUCTIVE POLYPROPYLENE</b> (with carbon additive)	38 Kg Temp. 3°C min. 65°C max
<b>PVDF</b> (with carbon additive)	45 Kg Temp. 3°C min. 95°C max



# Boxer 522 / Boxer 502



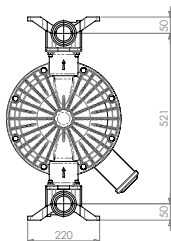
## Specifications and types



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.



### METAL MATERIAL - ALU

### Boxer 502



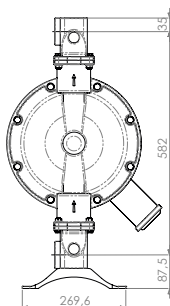
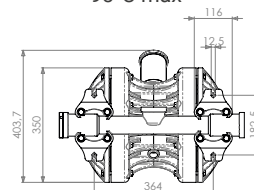
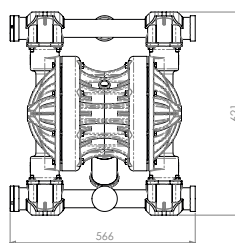
#### Maximum dimensions

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



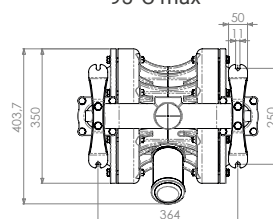
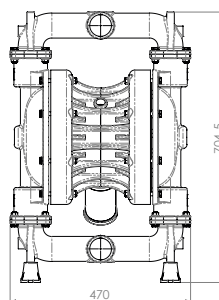
#### Maximum dimensions

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 L

### 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

# Boxer 522 / Boxer 502

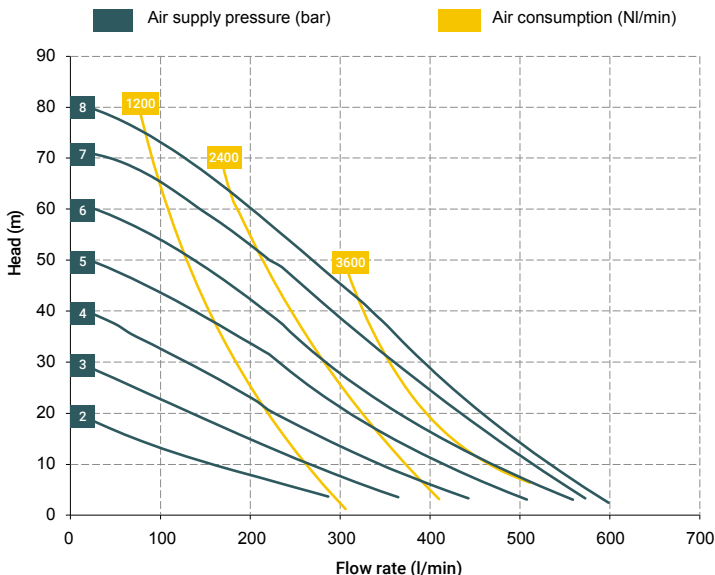
## Specifications and types



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 IIB T135°C Dc X  
II 2G Ex h IIB T4 Gb e II 2D Ex h IIB 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 IIB 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.



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

### 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)

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 522 / Boxer 502



#unboxingtebem

## 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.

## 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 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* 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)

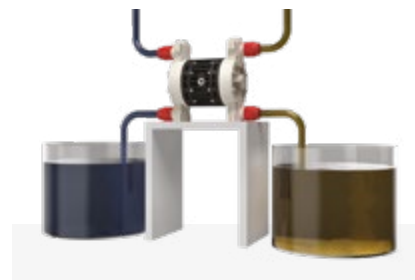
C = CONDUCT version for ATEX ZONE 1  
Z = Version for IECEx Standard



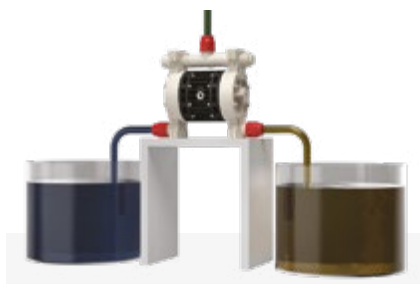
Self priming



Under head



Split Suction



Split Suction and Delivery

aodd.ir