

BOXER 81 / BOXER 90

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS



DEBEM
— MADE IN ITALY —



Suction / delivery connections	1" f BSPP (*)
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 - pump primed	9,5 m
Max diameter suspended solids	4 mm
Noise level	70 dB
Volume per stroke	100 cc



(*) NPT fittings only on request

* 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.

** Value depends on pump configuration.

CE



Product designed and constructed in Italy

PATENTED stall-prevention pneumatic circuit

Operates with NON-lubricated air

SELF-PRIMING

Supports dry running

ATEX certification for ZONE 1 - ZONE 2

IECEx certification

Adjustable operating speed

Versatile

Suitable for pumping fluids with high viscosity and for demanding applications

Usable with fluids containing suspended solids

Option of suspended installation

Manifolds available with stainless steel reinforcement rings for PP - PP + CF - PVDF pumps

Suitable for continuous use

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Specifications and types



ATEX Zona 1 (CONDUCT): II2GExhII BT4Gb – II2DExhII BT135°CDBX

ATEX Zona 2 (STANDARD): II3GExhII BT4Gc – II3DExhII BT135°CDCX – IM2ExhIMbX*

IECEX: ExhII BT4Gb – ExhII BT135°CDB

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



PP

Boxer 81



Maximum Dimensions

Height	274 mm
Width	308 mm
Depth	170 mm



Construction materials (body and manifolds) and net weight

Polypropylene (with glass filler)	5 Kg
Temp. 3°C min.	65°C max
Conductive polypropylene (with carbon filler)	5 Kg
Temp. 3°C min.	65°C max



PVDF

Boxer 81



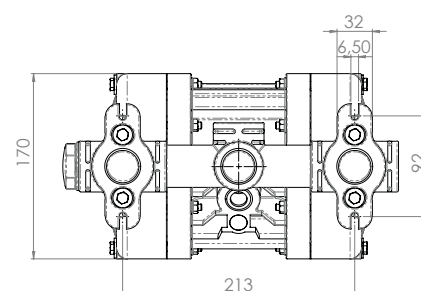
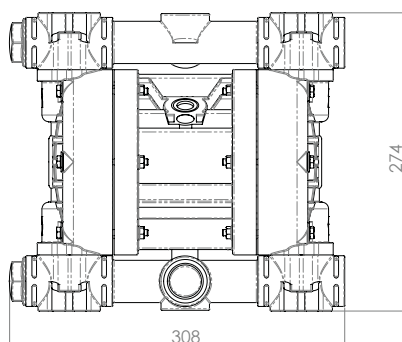
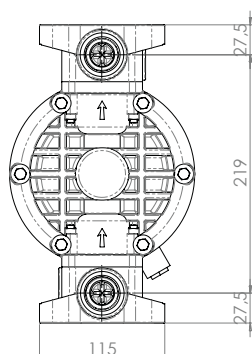
Maximum Dimensions

Height	274 mm
Width	308 mm
Depth	170 mm



Construction materials (body and manifolds) and net weight

PVDF (with carbon filler)	6 Kg
Temp. 3°C min.	95°C max



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Specifications and types



ATEX Zona 1 (CONDUCT): II2GExhII BT4Gb – II2DExhII BT135°C DbX

ATEX Zona 2 (STANDARD): II3GExhII BT4Gc – II3DExhII BT135°C DbX – IM2ExhII MbX*

IECEX: ExhII BT4Gb – ExhII BT135°C Db

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



Electropolished AISI 316

Boxer 81



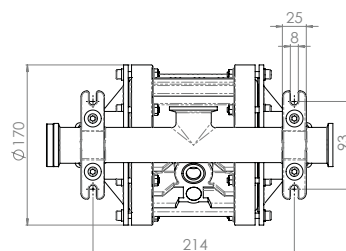
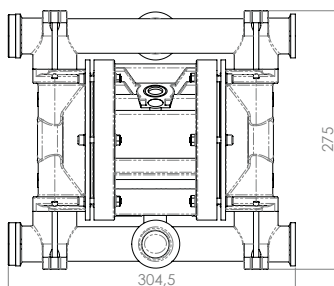
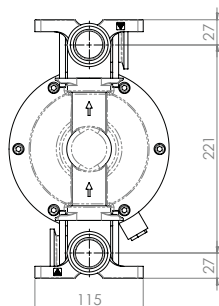
Maximum Dimensions

Height	275 mm
Width	305 mm
Depth	170 mm



Construction materials (body and manifolds) and net weight

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



BOXER 90

ALU



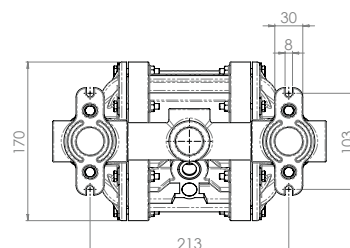
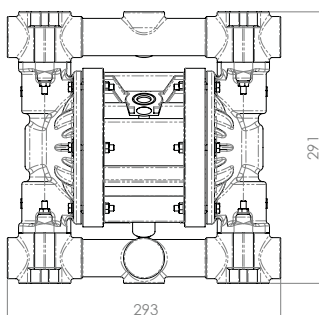
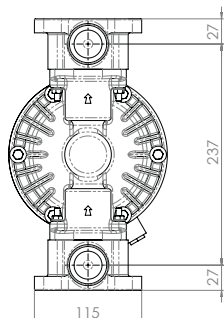
Maximum Dimensions

Height	291 mm
Width	293 mm
Depth	170 mm



Construction materials (body and manifolds) and net weight

ALU	7 Kg
	Temp. 3°C min.
	95°C max



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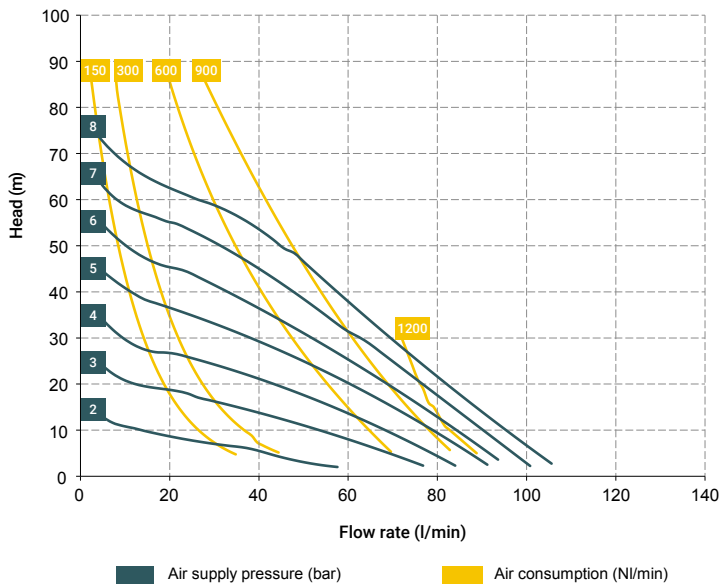


Specifications and types



ATEX Zona 1 (CONDUCT): II2GExhIIIBT4Gb – II2DExhIIIBT135°CDBX
ATEX Zona 2 (STANDARD): II3GExhIIIBT4Gc – II3DExhIIIBT135°CDBX – IM2ExhIMbX*
IECE: ExhIIIBT4Gb – ExhIIIBT135°CDB

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



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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)

Distributor material T20 (compressed air circuit)

- POM

Core material:

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

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)

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 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



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Specifications and types



ATEX Zona 1 (CONDUCT): II2GExhIIIBT4Gb – II2DExhIIIBT135°CDBX
ATEX Zona 2 (STANDARD): II3GExhIIIBT4Gc – II3DExhIIIBT135°CDBX – IM2ExhIMbX*
IECEX: ExhIIIBT4Gb – ExhIIIBT135°CDB

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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.

IB81-	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 USE



UNDER HEAD USE



IMMERSED



DRUM TRANSFER



SPLIT SUCTION and DELIVERY



SPLIT SUCTION



MAIN APPLICATION SECTORS

