

AIR-OPERATED DOUBLE DIAPHRAGM PUMPS

Boxer 50 / Miniboxer



 **HpE** PROCESS

CE



- Product designed and constructed in Italy
- Patented stall protection pneumatic circuit
- Operation with non-lubricated air
- Self priming
- Supports dry running
- ATEX certification for ZONE 1 - ZONE 2
- IECEx certification
- Possibility of adjusting the operating speed
- Versatility of use
- Suitable for pumping fluids with high viscosity and for demanding applications
- Possibility of pumping fluids containing suspended solids
- Possibility of suspended installation
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP – PP+CF – PVDF
- Nozzles available with clamp connections and DIN 11851 (only pumps in AISI 316)
- Long Life profile diaphragms (available in different elastomers) for greater resistance and longer life
- Suitable for continuous use

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 M2 I M2 Ex h I Mb X*
 Ex h IIB T4 Gb e Ex h IIIB T135°C Db

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

Suction / delivery connections Boxer 50 / Miniboxer	1/2" f BSPP (*)
Suction / delivery connections Foodboxer 50	3/4" - 1" Clamp
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
Volume per stroke	67 cc

(*) 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



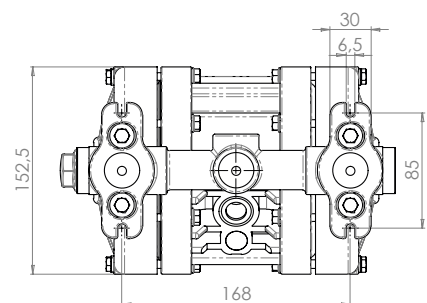
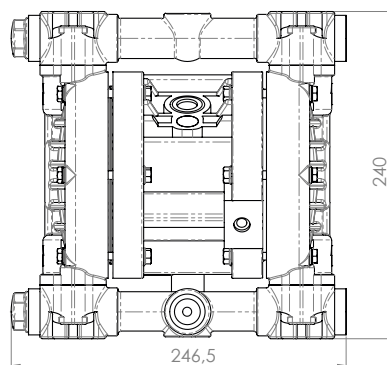
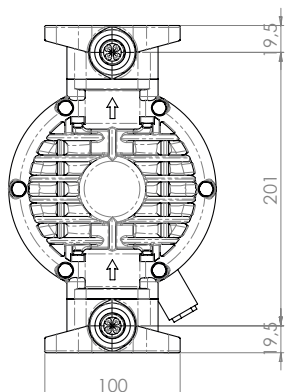
Maximum dimensions

Height	240 mm
Width	247 mm
Depth	153 mm



Construction mat. (casing and manifolds) and net weight

POLYPROPYLENE (with glass additive)	3,75 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	3,75 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	4,25 Kg Temp. 3°C min. 95°C max



Boxer 50 / Miniboxer



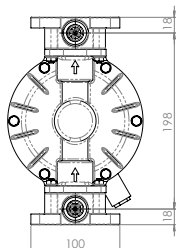
Specifications and types



Zone 2 - Zone 22
Zone 1 - Zone 21
Zone M2
Ex h IIB T4 Gb e Ex h IIB T135°C Db

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*

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METAL MATERIAL - ALU

Boxer 50



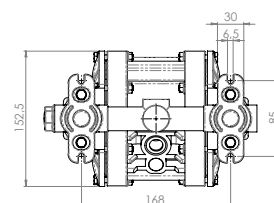
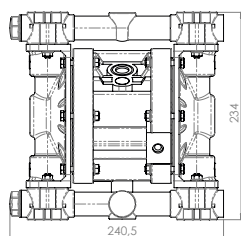
Maximum dimensions

Height	234 mm
Width	241 mm
Depth	153 mm

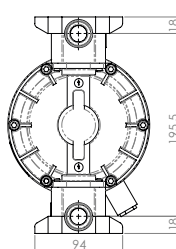


Construction mat. (casing and manifolds) and net weight

PVDF (with carbon additive)	4,07 Kg Temp. 3°C min. 95°C max
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MINIBOXER



METAL MATERIAL - AISI 316 L

Miniboxer



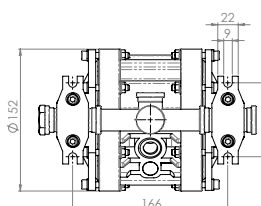
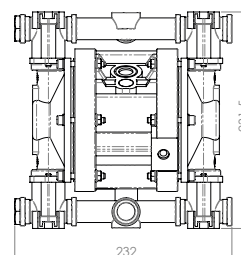
Maximum dimensions

Height	232 mm
Width	232 mm
Depth	152 mm



Construction mat. (casing and manifolds) and net weight

AISI 316 L	6,03 Kg Temp. 3°C min. 95°C max
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FOODBOXER 50



METAL MATERIAL - AISI 316 L ELECTROPOLISHED

Foodboxer 50



Maximum dimensions

Height	232 mm
Width	232 mm
Depth	152 mm



Construction mat. (casing and manifolds) and net weight

AISI 316 L (electropolished)	6,03 Kg Temp. 3°C min. 95°C max
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Boxer 50 / Miniboxer



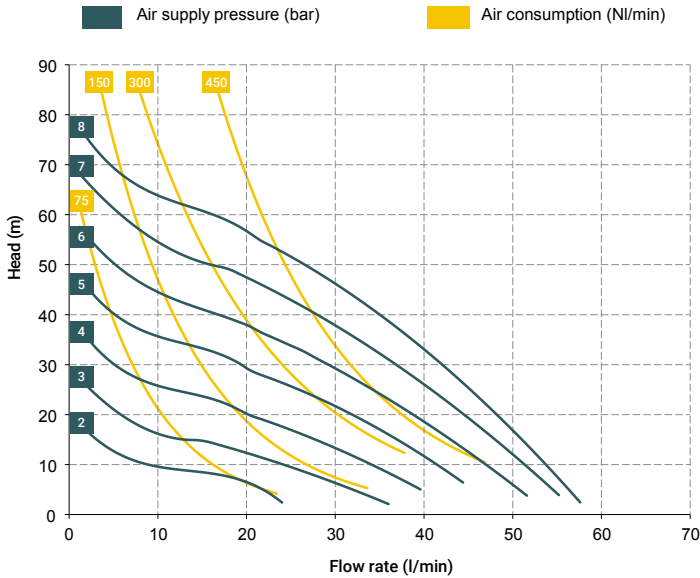
Specifications and types



Zone 2 - Zone 22
Zone 1 - Zone 21
Zone M2
Ex h IIB T4 Gb e Ex h IIB T135°C Db

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*

* 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 50 (PP):

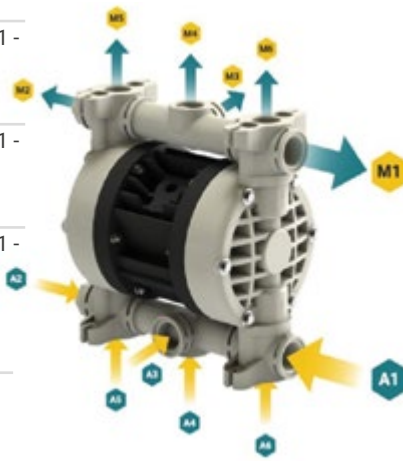
A1 - A2 - A3 - A4 - A5 - A6 - M1 - M2 - M3 - M4 - M5 - M6

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

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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

MAIN APPLICATION SECTORS



GRAPHIC INDUSTRY



CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY



PRODUCTION AND STORAGE OF BIODIESEL



CHEMICAL INDUSTRY



OIL & GAS



PAINT INDUSTRY



GOLD PROCESSING INDUSTRY



PACKING, GLUE, PAPER AND PAPER MILLS



MECHANICAL AND METALLURGICAL INDUSTRY



GALVANIC AND ELECTRONIC INDUSTRY



AUTOMOTIVE



FOODBOXER 50