DIAPHRAGM PUMPS

No. 404-M

Guaranteed efficiency





ADVANCED FLUID MANAGEMENT SOLUTIONS







ADVANCED FLUID MANAGEMENT SOLUTIONS







ADVANCED FLUID MANAGEMENT SOLUTIONS



at your service since 1975

RAASM works to offer the best through continuous improvement, in terms of performance, functionality and reliability of its products.

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Strength points



Why choose a diaphragm pump?

RAASM pneumatic double-diaphragm pumps (ratio 1:1) are designed and manufactured for pumping a wide range of fluids even with **high viscosities and with suspended solids.**

In being **ATEX certified,** they can also be used for heavy applications such as in places with high humidity or with potentially explosive atmosphere.

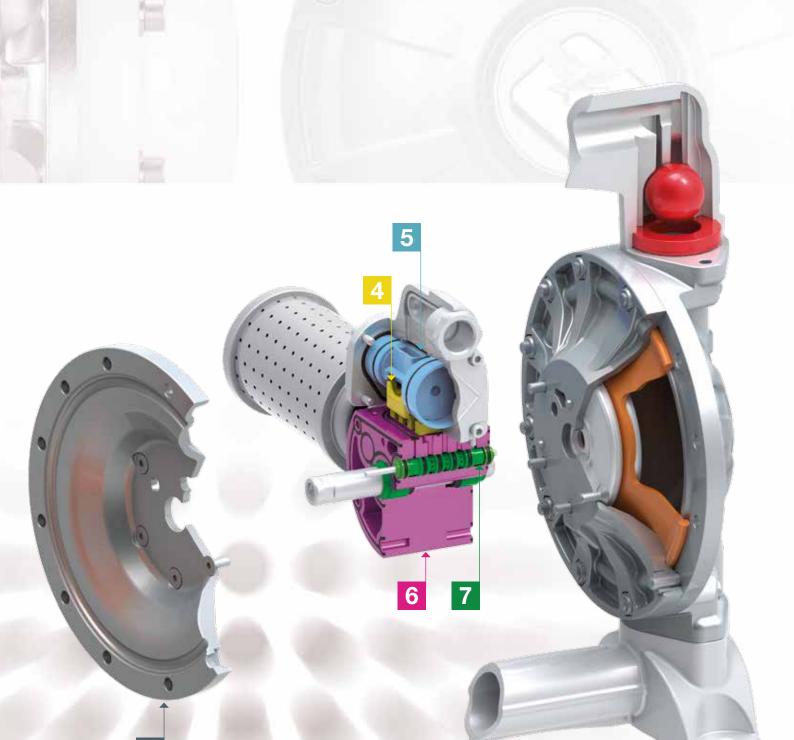
We summarize below the main advantages:

- Atex certification available
- The wide range of materials used for the pumps makes it easy to identify the model having the best chemical compatibility with the fluid to be pumped and for the work environment (cosult the tables on page 16).
- 1/2" with reinforced thread thanks to a stainless steel AISI 316 ring
- polypropylene and aluminum pumps with ball seats in stainless steel AISI 316 and polypropylene (depending on the model)
- All pumps are tested before the packaging to ensure the highest quality
- They do not become damaged in case of prolonged operation when empty
- Self-priming capability
- Easy adjustment of delivery









- 8
- Ball valves designed to guarantee the total flow of the pumped fluid. In the polypropylene and aluminum versions the ball seats are in stainless steel AISI 316 (1") or in stainless steel AISI 316 and polypropylene (1/2")
- 2

1

Total flow suction and delivery manifolds, to facilitate suction of the liquid in any situation, with threaded connections or flanged available in different diameters according to the pump models. In the polypropylene and aluminum versions there is a stainless steel AISI 316 ring to reinforce the thread.

Diaphragms designed and produced with **different materials** according to the fluid to be pumped.

The air distribution valve ensures **perfect operation** in any operating conditions. Some examples:

- Minimum supply pressures (min. 2 bar)
- Critical fluid and ambient temperatures
- Supply pressure fluctuations

5 Air distributor unit equipped with anti-stall reversing piston. This piston prevents the pump from stopping at a dead point, even in critical operating conditions.

6 Pneumatic motor with **anti-ice device**. This allows the pump to maintain its performance, even if powered with untreated air.



The pneumatic motor block of the pump does not require any type of lubrication because the moving parts are self-lubricating.



Flanges created to withstand heavy work conditions.

Industrial design, material in aluminum with internal and external sand blasting and nickel-plating surface treatment. Die-casting ensures a better structural and surface finish.

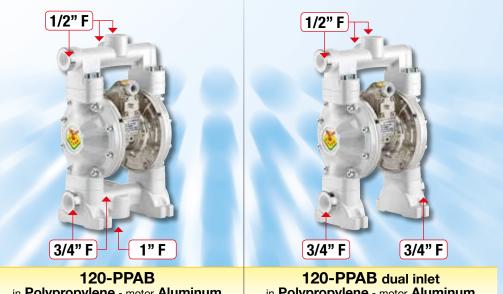




Diaphragm pumps R. 1:1 for transferring fluids, made from molding injected polypropylene with motor made in aluminum; they ensure lasting and reliable operation even in extreme conditions and with agressive fluids.

Note: The max flow rate shown in the below graphics has been obtained by laboratory test.

1/2" - 60 I/min



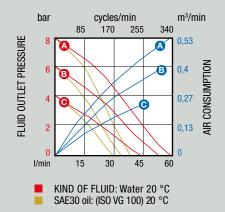
		120-PPAB	120-PPAB dual inlet	
membranes balls seats		in Polypropylene - motor Aluminum	in Polypropylene - motor Aluminum	
Acetal	Polypropylene and AISI 316	P/N 2B3/16117EA5	P/N 2B8/16117EA5	
Hytrel	Polypropylene and AISI 316	P/N 2B3/16117HH5	P/N 2B8/16117HH5	
Hytrel	Polypropylene and AISI 316	P/N 2B3/16117NH5	P/N 2B8/16117NH5	
Santoprene	Polypropylene and AISI 316	P/N 2B3/16117SS5	P/N 2B8/16117SS5	
PTFE	Polypropylene and AISI 316	P/N 2B3/16117TT5	P/N 2B8/16117TT5	
e		8 bar	8 bar	
er min		330 cpm	330 cpm	
le	**	0,188	0,188	
Max suction lift		dry column 4,5 m - wet column 7,5 m	dry column 4,5 m - wet column 7,5 m	
Max size pumpable solids		1,5 mm	1,5 mm	
Max working temperature ***		65° C	65° C	
		75 dB	75 dB	
umption (m ³ /r	nin)	0,50 m³/min	0,50 m ³ /min	
		2 - 6 bar	2 - 6 bar	
inlet connection		F 3/8" G	F 3/8" G	
nection (muff	fler)	F 1/2" G	F 1/2" G	
nnection		F 3/4" G (F 1" G for drum)	dual inlet F 3/4" G	
Fluid outlet connection		F 1/2" G	F 1/2" G	
Balls for inlet and outlet				
isions (A x B x	x C)	218 mm x 178,2 mm x 326 mm	220 mm x 178,2 mm x 327 mm	
ight		🎁 N° 1 packing m³ 0,016 🛛 🖞 Kg 5,5	🕅 N° 1 packing m³ 0,016 🛱 Kg 8	
	Acetal Hytrel Hytrel Santoprene PTFE e er min kle ift npable solids temperature umption (m³/r ressure ection nection (muff nnection	Acetal Polypropylene and AISI 316 Hytrel Polypropylene and AISI 316 Hytrel Polypropylene and AISI 316 Santoprene Polypropylene and AISI 316 PTFE Polypropylene and AISI 316 Be ** er min ** :le ** ift ** uppable solids *** umption (m³/min) *** ressure *** ection *** onnection *** sisions (A x B x C) ***	ballsseatsin Polypropylene - motor AluminumAcetalPolypropylene and AISI 316P/N 2B3/16117EA5HytrelPolypropylene and AISI 316P/N 2B3/16117TH5HytrelPolypropylene and AISI 316P/N 2B3/16117TNH5SantoprenePolypropylene and AISI 316P/N 2B3/16117TNF5SantoprenePolypropylene and AISI 316P/N 2B3/16117TNF5PTFEPolypropylene and AISI 316P/N 2B3/16117TT5e8 bar8 barer min330 cpmsle**0,188 liftdry column 4,5 m - wet column 7,5 mnpable solids1,5 mmtemperature***75 dBumption (m³/min)onsesure2 - 6 barectionF 3/8" Gnection (muffler)F 1/2" GnnectionF 3/4" G (F 1" G for drum)onnectionF 1/2" Gsions (A x B x C)218 mm x 178,2 mm x 326 mm	

* With PTFE membrane flow rate is 10 % lower ** Displacement per cycle may be influenced by suction lift, fluid viscosity, air pressure, number of cycles per minute *** The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature

PUMP DIMENSIONS



PUMP PERFORMANCE



FEE	PUMP AIR Feeding Pressure					
A	A	8 bar				
8	B	6 bar				
Θ	Θ	4 bar				

	Atex 94/9 II 3 GD c TX		WITH FLANGE 1"	WITH FLANGE 1"	
Diaphragm for transfer made from r polypropyler in aluminum lasting and r even in extro with agressi with agressi	flow rate elow graphics he with moto is they ensu reliable oper eme condition ve fluids.	octed or made re ration	WITH FLANGE 1"	WITH FLANGE 1"	
Series	h e lle		1000-PPAB	1000-PPAB dual inlet	
membranes	balls	seats	in Polypropylene - motor Aluminum	in Polypropylene - motor Aluminum	
EPDM	Acetal	Stainless steel AISI 316	P/N 2B4/26117EAI	P/N 2B7/26117EAI	
Hytrel	Hytrel	Stainless steel AISI 316	P/N 2B4/26117HHI	P/N 2B7/26117HHI	
NBR	Hytrel	Stainless steel AISI 316	P/N 2B4/26117NHI	P/N 2B7/26117NHI	
Santoprene	Santoprene	Stainless steel AISI 316	P/N 2B4/26117SSI	P/N 2B7/26117SSI	
PTFE+Hytrel *	PTFE	Stainless steel AISI 316	P/N 2B4/26117TTI	P/N 2B7/26117TTI	
Max. pressure			8 bar	8 bar	
Max cycles p		**	300 cpm	300 cpm	
Litres per cyc			0,590 l	0,590 l	
Max suction I Max size pur			dry column 5 m - wet column 7,5 m 3 mm	dry column 5 m - wet column 7,5 m 3 mm	
Max size pull Max working	•	***	65° C	65° C	
Noise level	Comporature		75 dB	75 dB	
	umption (m³/r	nin)	1.60 m ³ /min	1.60 m ³ /min	
Air working p		,	2 - 6 bar	2 - 6 bar	
Air inlet conn			F 3/8" G	F 3/8" G	
Air outlet connection (muffler)		ler)	F 1/2" G	F 1/2" G	
Fluid inlet co	nnection		ANSI 150 - DIN PN 10 - JIS 10K 1" (25 mm) proneness to F 1.1/4" G thread	dual inlet ANSI 150 - DIN PN 10 - JIS 10K 1" (25 mm) proneness to F 1.1/4" G thread	
Fluid outlet c			ANSI 150 - DIN PN 10 - JIS 10K 1" (25 mm) proneness to F 1.1/4" G thread	ANSI 150 - DIN PN 10 - JIS 10K 1" (25 mm) proneness to F 1.1/4" G thread	
Balls for inlet					
and outlet			_	<u> </u>	
and outlet Overall dimer	isions (A x B x	« C)	300 mm x 200 mm x 430 mm ∭ N° 1 packing m³ 0,033	357 mm x 198,1 mm x 418,2 mm	

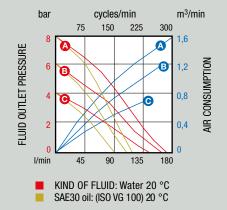
* With PTFE membrane flow rate is 10 % lower ** Displacement per cycle may be influenced by suction lift, fluid viscosity, air pressure, number of cycles per minute *** The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature

ACCESSORY (to be ordered separately)



P/N 32/95 Flange in stainless steel AISI 304 with F 1"G thread suitable for the plant connection.

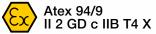
PUMP PERFORMANCE



FEEDING	PUMP AIR Feeding Pressure					
A	8 bar					
88	6 bar					
0 0	4 bar					

1" - 170 I/min





1/2" - 70 I/min

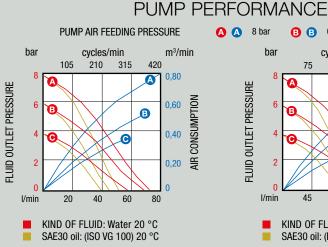
1" - 170 I/min

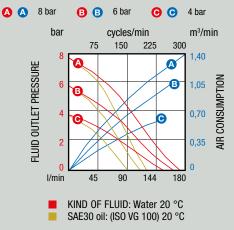
	2 GD c IIB	T4 X		1" F	
Diaphragm pumps R. 1:1 for transferring, made from die-cast aluminum; they ensure lasting and reliable operation with the most common automotive and industry fluids.			1/2" F	1.1/4" F	
Series			120-AB	1000-AB	
membranes	balls	seats	all Aluminum	all Aluminum	
EPDM	Acetal	Acetal	P/N 3C1/16111EAA	P/N 3C1/26111EAA	
Hytrel	Hytrel	Hytrel	P/N 3C1/16111HHH	P/N 3C1/26111HHH	
NBR	Hytrel	Hytrel	P/N 3C1/16111NHH	P/N 3C1/26111NHH	
Santoprene	Santoprene	Santoprene	P/N 3C1/16111SSS	P/N 3C1/26111SSS	
PTFE+Hytrel *	PTFE	Polypropylene	P/N 3C1/16111TTP	P/N 3C1/26111TTP	
Max. pressur	e		8 bar	8 bar	
Max cycles p			400 cpm	300 cpm	
Litres per cyc	cle	**	0,188	0,590 l	
Max suction	lift		dry column 4,5 m - wet column 7,5 m	dry column 4,5 m - wet column 7,5 m	
Max size pun			1,5 mm	3 mm	
Max working	temperature	***	100° C 100° C		
Noise level			75 dB	75 dB	
	umption (m ³ /n	nin)	0,80 m ³ /min	1,40 m ³ /min	
Air working p			2 - 6 bar	2 - 6 bar	
Air inlet conn		lor)	F 3/8" G F 1/2" G	F 3/8" G F 1/2" G	
Air outlet connection (muffler) Fluid inlet connection			F 3/4" G	F 1.1/4" G	
Fluid outlet c	onnection		F 1/2" G	F 1" G	
Balls for inlet and outlet			0	0	
Overall dimer	nsions (A x B x	(C)	201 mm x 160 mm x 256 mm	260,5 mm x 201 mm x 345 mm	
Packing - We	ight		🎁 N° 1 packing m³ 0,015 🏻 🖞 Kg 6,5	資 N° 1 packing m³ 0,025 Kg 12	

With PTFE membrane flow rate is 10 % lower ** Displacement per cycle may be influenced by suction lift, fluid viscosity, air pressure, number of cycles per minute The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature * **

PUMP DIMENSIONS

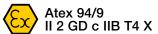






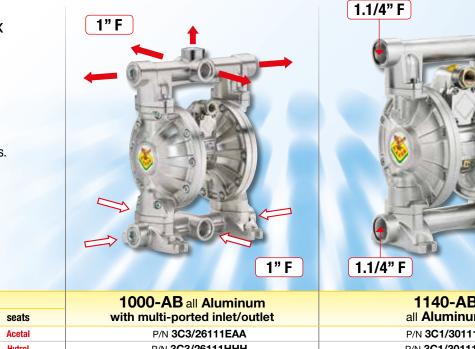
1" - 170 I/min

1.1/4" - 200 I/min



Diaphragm pumps R. 1:1 for transferring, made from die-cast aluminum; they ensure lasting and reliable operation with the most common automotive and industry fluids.

Note: The max flow rate shown in the below graphics has been obtained by laboratory test.

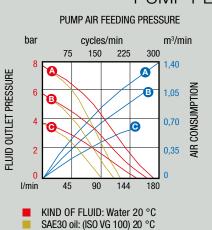


Series			1000-AB all Aluminum	1140-AB	
membranes	embranes balls seats		with multi-ported inlet/outlet	all Aluminum	
EPDM	Acetal	Acetal	P/N 3C3/26111EAA	P/N 3C1/30111EAA	
Hytrel	Hytrel	Hytrel	P/N 3C3/26111HHH	P/N 3C1/30111HHH	
NBR	Hytrel	Hytrel	P/N 3C3/26111NHH	P/N 3C1/30111NHH	
Santoprene	Santoprene	Santoprene	P/N 3C3/26111SSS	P/N 3C1/30111SSS	
PTFE+Hytrel *	PTFE	Polypropylene	P/N 3C3/26111TTP	P/N 3C1/30111TTP	
Max. pressur	e		8 bar	8 bar	
Max cycles p	er min		300 cpm	260 cpm	
Litres per cyc	Itres per cycle **		0,590	0,800 I	
Max suction	ax suction lift		dry column 4,5 m - wet column 7,5 m	dry column 4,5 m - wet column 7,5 m	
Max size pumpable solids			3 mm	3 mm	
Max working temperature ***		***	100° C	100° C	
Noise level	Noise level		75 dB	75 dB	
Max air cons	umption (m ³ /n	nin)	1,40 m ³ /min	1,80 m ³ /min	
Air working p	ressure		2 - 6 bar	2 - 6 bar	
Air inlet conn	ection		F 3/8" G	F 3/4" G	
Air outlet con	nection (muff	ler)	F 1/2" G	F 1" G	
Fluid inlet co	nnection		4 x F 1" G	F 1.1/4" G	
Fluid outlet c	onnection		5 x F 1" G	F 1.1/4" G	
Balls for inlet and outlet	Balls for inlet and outlet		0	0	
Overall dimer	isions (A x B x	(C)	280 mm x 200 mm x 352 mm	286 mm x 238 mm x 386 mm	
Packing - We	ight		😭 N° 1 packing m³ 0,025 🛛 🖞 Kg 13,5	🙀 N° 1 packing m³ 0,034 🛛 🛱 Kg 15	

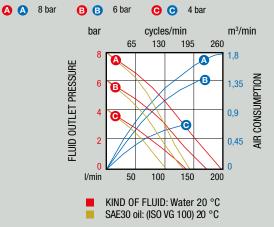
* With PTFE membrane flow rate is 10 % lower ** Displacement per cycle may be influenced by suction lift, fluid viscosity, air pressure, number of cycles per minute *** The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature

PUMP DIMENSIONS

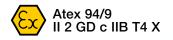




PUMP PERFORMANCE

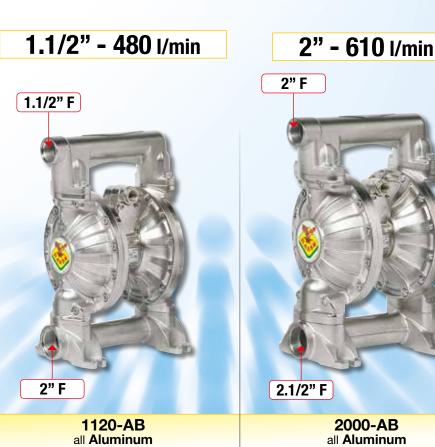






Diaphragm pumps R. 1:1 for transferring, made from die-cast aluminum; they ensure lasting and reliable operation with the most common automotive and industry fluids.

Note: The max flow rate shown in the below graphics has been obtained by laboratory test.



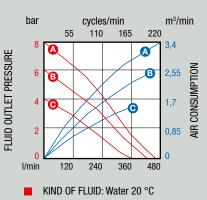
Series			1120-AB	2000-AB	
membranes	s balls seats		all Aluminum	all Aluminum	
EPDM	Acetal	Acetal	P/N 3C1/40111EAA	P/N 3C1/50111EAA	
Hytrel	Hytrel	Hytrel	P/N 3C1/40111HHH	P/N 3C1/50111HHH	
NBR	Hytrel	Hytrel	P/N 3C1/40111NHH	P/N 3C1/50111NHH	
Santoprene	Santoprene	Santoprene	P/N 3C1/40111SSS	P/N 3C1/50111SSS	
PTFE+Hytrel *	PTFE	Polypropylene	P/N 3C1/40111TTP	P/N 3C1/50111TTP	
Max. pressur	e		8 bar	8 bar	
Max cycles p	er min		220 cpm	147 cpm	
Litres per cy	cle	**	2,150	4,150	
Max suction	Max suction lift		dry column 5 m - wet column 7,5 m	dry column 5 m - wet column 7,5 m	
Max size pun	Max size pumpable solids		5,5 mm	6,5 mm	
Max working	temperature	***	100° C	100° C	
Noise level			78 dB	82 dB	
Max air cons	umption (m ³ /n	nin)	3,40 m ³ /min	4,00 m ³ /min	
Air working p	oressure		2 - 6 bar	2 - 6 bar	
Air inlet conr	ection		F 3/4" G	F 3/4" G	
Air outlet cor	nnection (muff	ler)	F 1" G	F 1" G	
Fluid inlet co	nnection		F 2" G	F 2.1/2" G	
Fluid outlet c	Fluid outlet connection		F 1.1/2" G	F 2" G	
Balls for inlet and outlet	Balls for inlet and outlet		0	0	
Overall dime	nsions (A x B x	(C)	350 mm x 402 mm x 514 mm	426,2 mm x 432 mm x 616 mm	
Packing - We	ight		資 N° 1 packing m³ 0,065 🛛 🛱 Kg 23,5	M° 1 packing m³ 0,115 🛱 Kg 43	

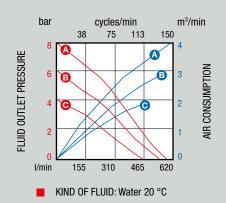
With PTFE membrane flow rate is 10 % lower ** Displacement per cycle may be influenced by suction lift, fluid viscosity, air pressure, number of cycles per minute The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature * **

PUMP DIMENSIONS



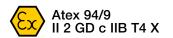
PUMP PERFORMANCE PUMP AIR FEEDING PRESSURE 🔼 🔼 8 bar





🕑 💽 4 bar

B B 6 bar



Diaphragm pumps R. 1:1 for transferring, made from die-cast aluminum; they ensure lasting and reliable operation with the most common automotive and industry fluids.

Note: The max flow rate shown in the below graphics has been obtained by laboratory test.



2" - 610 I/min



2" - 580 I/min MODULAR WITH FLANGE 2"

MODULAR WITH FLANGE 2"

Series			2000-AB all Aluminum	2000-AB	
membranes	embranes balls seats		with multi-ported inlet/outlet	all Aluminum	
EPDM	Acetal	Acetal	P/N 3C3/50111EAA	P/N 3C6/50111EAA	
Hytrel	Hytrel	Hytrel	P/N 3C3/50111HHH	P/N 3C6/50111HHH	
NBR	Hytrel	Hytrel	P/N 3C3/50111NHH	P/N 3C6/50111NHH	
Santoprene	Santoprene	Santoprene	P/N 3C3/50111SSS	P/N 3C6/50111SSS	
PTFE+Hytrel *	PTFE	Polypropylene	P/N 3C3/50111TTP	P/N 3C6/50111TTP	
Max. pressur	e		8 bar	8 bar	
Max cycles p	er min		147 cpm	147 cpm	
Litres per cyc	res per cycle **		4,150	3,950	
Max suction	Max suction lift		dry column 5 m - wet column 7,5 m	dry column 5 m - wet column 7,5 m	
Max size pumpable solids			6,5 mm	6,5 mm	
Max working temperature ***		***	100° C	100° C	
Noise level			82 dB	82 dB	
Max air cons	umption (m ³ /n	nin)	4,00 m ³ /min	4,00 m ³ /min	
Air working p	oressure		2 - 6 bar	2 - 6 bar	
Air inlet conn	ection		F 3/4" G	F 3/4" G	
Air outlet cor	nection (muff	ler)	F 1" G	F 1" G	
Fluid inlet co	nnection		F 2.1/2" G	ANSI 150 - DIN PN 10 - JIS 10K 2" (50 mm)	
Fluid outlet connection			F 2" G	ANSI 150 - DIN PN 10 - JIS 10K 2" (50 mm)	
Balls for inlet and outlet			0	0	
	nsions (A x B x	: C)	449 mm x 434 mm x 670,5 mm	409 mm x 432 mm x 709 mm	
Packing - We		-,	\Im N° 1 packing m ³ 0,115 \Im Kg 45		

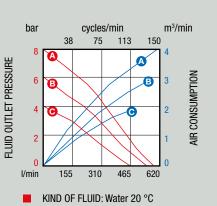
* With PTFE membrane flow rate is 10 % lower ** Displacement per cycle may be influenced by suction lift, fluid viscosity, air pressure, number of cycles per minute *** The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature

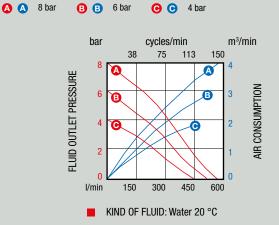
PUMP AIR FEEDING PRESSURE

PUMP PERFORMANCE

PUMP DIMENSIONS







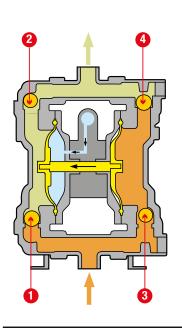
PUMP CONFIGURATION

Exploded view of the p its main parts and the the choice for a custor	reby facilitating	MOT(INNE)R R Flanges		tion of the second seco		Ŕ	PARTS IN Contact with The fluid
The table summarises configurations availab create his own person the models listed on ti the specific requireme	le, allowing the user to alised code whenever he leaflet do not meet	PART CONT THE F	ACT WITH 🔄 🗍			Q () Q		MEMBRANE Balls Seats
	ertifications are available, fo g on the materials making u or zone 2) Il 2GD c IIB 1	p the pump.		moveme	nt of the followe must be compat	r plates. The ma ible with the flu	a result of the re aterial they are r id being pumper	nade from
	They can be threaded single, multiple			of the r plates. T	n and close the eciprocating mo ne material they patible with the	vement of the f are made from	ollower must be	
		It de the ii	fines hside heter the	pump, that su their moven made from n obtain the co with the These are all th such as exter manifolds an which are co contact with	nal flanges, nd sleeves instantly in the liquid to	e liquid with al they are I in order to compatibility		
		hea pump, fi reciț move cre	s is the rt of the responsible or the procating ment that ates the of liquid.	be pumped. Av rious materials on the type These are n contact with th ped liquid, bu with the comp air feeding the	s, depending of liquid. ot in e pum- t only ressed			
MATERIALS	MANIFOLD FOR	FLOW	_2	C	Ľ		K	K
AND ATEX VERSIONS	INLET AND OUTLET	INSIDE DIAMETER	MOTOR	INNER FLANGES	PARTS IN Contact with The fluid	MEMBRANE	BALLS	SEATS
2B = polypropylene	1/ = threaded connection G/BSP	16 = 1/2"	1 = nichel plat.	1 = nichel plat.	1 = nichel plat.	E = EPDM	A = acetal	A = acetal
for Zone 2	3/ = mult. threaded con. G/BSP		aluminum	aluminum	aluminum	H = hytrel	H = hytrel	H = hytrel
3C = aluminum for Zone 1	4/ = connection with flange	30 = 1.1/4"			7 = polypropylene		$\mathbf{S} = \text{santoprene}$	P = polypropylene
	 6/ = multiple modular connection with flange 7/ = dual inlet connection 	40 = 1.1/2" 50 = 2"				S = santoprene T = PTFE + hytrel	T = PTFE	S = santoprene 1 = cylindrical acetal
	with flange 8/ = dual inlet G/BSP							2 = cylindrical polypropylene

EXAMPLE 3C1/16111EAA								
3C = aluminum for Zone 1	1/ = threaded connection G/BSP	16 = 1/2"	1 = nichel plat. aluminum	1 = nichel plat. aluminum	1 = nichel plat. aluminum	E = EPDM	A = acetal	A = acetal

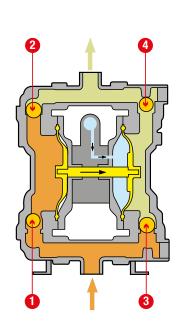
INSTALLATION AND OPERATION

SIMPLE AND EFFECTIVE (1:1 RATIO)



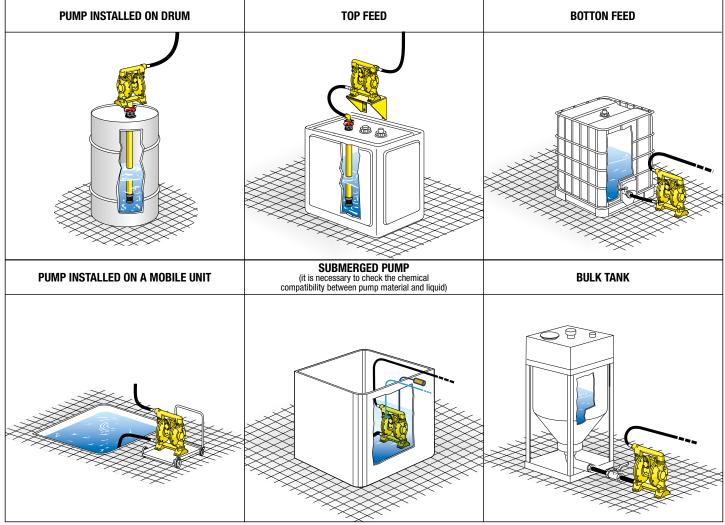
The slide valve of the air motor sends air (blue) to the left chamber which, pushing the membrane outwards, compresses the previously filled liquid (green). Through the effect of the pressure created valve 1 closes and valve 2 opens allowing the liquid to

opens allowing the liquid to dispense (green). The right membrane then carries out the same movement by the shaft joining it to the left membrane, creating a vacuum. Through the effect of the vacuum, the valve ③ opens and the valve ④ closes, enabling suction of the liquid (orange).



The slide valve of the air motor sends air (blue) to the right chamber which, pushing the membrane outwards, compresses the previously filled liquid (green). Through the effect of the pressure created valve **3** closes and valve 4 opens allowing the liquid to dispense (green). The left membrane then carries out the same movement by the shaft joining it to the right membrane, creating a vacuum. Through the effect of the vacuum, the valve **1** opens and the valve 2 closes, enabling suction of the liquid (orange).

HOW TO INSTALL THE PUMP



WIDE CHOICE OF MATERIALS

PARTS IN CONTACT WITH FLUID

PUMP PARTS	MATERIALS	CHARACTERISTICS	TEMPERATURE MAX *
	Nickel-plated aluminum	 average resistance to abrasion and corrosion not intended for use with HHC (halogenated hydrocarbons) 	+100 °C
• 0 \$	Polypropylene	 wide chemical compatibility best alternative with aggressive fluids 	+65 °C

CENTRAL MOTOR BLOCK

PUMP PARTS	MATERIALS	CHARACTERISTICS	TEMPERATURE MAX *
	Nickel-plated aluminum	 high mechanical strength electrically conductive material for ATEX directive 	+100 °C

DIAPHRAGMS - SEATS - BALLS

	MATERIALS	CHARACTERISTICS AND STRENGHT POINTS	T° MAX *	DO NOT Choose if	SIMILAR NAMES ON THE MARKET
90	High Nitrile NBR	- high resistance to alphatic hydrocarbons, oils and greases - good flexibility	+90 °C	you are looking for resistance to many chemical agents	Buna - N Geolast
002	Hytrel	 high tenacity and springback high resistance to permanent deformation good resistance to industrial chemical substances and solvents excellent flexibility even at low temperature 	+65 °C	you work at high temperatures	Sani - flex
902	Santoprene	 excellent flexural and fatigue strength excellent resistance to abrasion and laceration excellent resistance to acids, alkalis and ageing also usable at high temperatures 	+110 °C	you work with Kerosene, Diesel, Petrol, Freon, Benzene	Wil - flex
90	EPDM	 good compatibility with organic and non-organic acids excellent resistance to heat and steam insensitive to the action of oxidising agents 	+110 °C	you work with mineral oils and hydrocarbons	Nordel Buna - Ep
902	PTFE	 inert with nearly all chemical reagents excellent heat resistance excellent dielectric characteristics excellent resistance to ageing 	+120 °C	you work at low temperatures	Teflon® + Hytrel
0	Acetal resin	 high fatigue strength high compressive strength good dimensional stability (low humidity absorption) resistance to alcohols and organic compounds 	+150 °C	you work in easy combustion environments	Delrin

* The materials in contact with the fluid, and the fluid as well, can restrict the pump working temperature

GUIDE TO CHOOSING A PUMP

HOW TO CHOOSE A PUMP SUITABLE FOR ONE'S NEEDS

	DELIVERY	MAX Ø Solid Parts	SERIES		
PUMP SIZE	(FLOW RATE)		POLYPROPYLENE	ALUMINUM	
1/2"	60 l/min	1,5 mm	120-PPAB	120-AB	
1"	170 I/min	3 mm	1000-PPAB	1000-AB	
1.1/4"	200 I/min	3 mm	-	1140-AB	
1.1/2"	480 l/min	5,5 mm	-	1120-AB	
2"	610 l/min	6,5 mm	-	2000-AB	

TECHNICAL ASPECTS TO BE CONSIDERED FOR A CORRECT CHOICE OF PUMP

PUMP SIZE

The size of a pump is closely linked to its maximum delivery: in fact, the larger the pump the greater the delivery.

CHEMICAL COMPATIBILITY

Some parts of the pump are always in contact with the liquid to be pumped. Therefore the materials these parts are made from must be chemically compatible with the liquid.

DIMENSIONS OF SUSPENDED SOLIDS

The maximum dimensions possible for suspended solids in the fluid to be pumped are specified in the technical tables of each diaphragm pump.

WORKING TEMPERATURE

The maximum and minimum working temperatures take into account the physical characteristics of the various parts making up the pump and their interaction with the pumped liquid (consult the tables on page 16).

ABRASION RESISTANCE

If the fluid to be pumped is very abrasive, the wear on parts that deteriorate quickly (e.g. diaphragms, balls, seats) can be reduced by choosing a pump larger than required. In this way the speed of the fluid inside the pump will be lower, thereby reducing the abrasion on the parts in contact with it.

SYSTEM SIZE

In order to optimise the performance of the pump it is advisable to consider the following dimensional parameters relevant to the system:

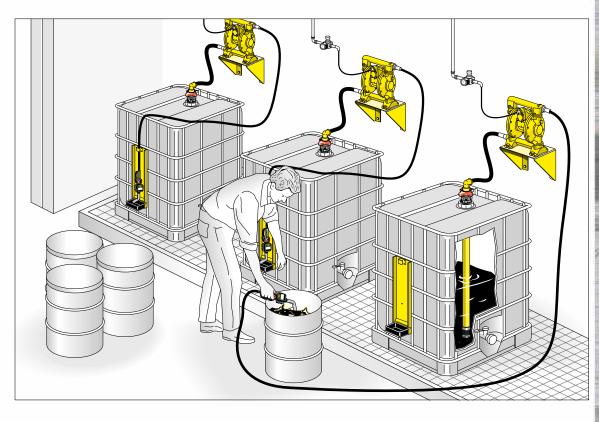
1) Suction pipe: position the pump as close as possible to the point of suction; if this is not possible, the maximum vertical distance must not exceed the 6 m.

2) Delivery pipe: the pipe must be sized so as to avoid pressure losses; the internal diameter must be chosen according to the distance to be covered, the temperature and the viscosity of the fluid.

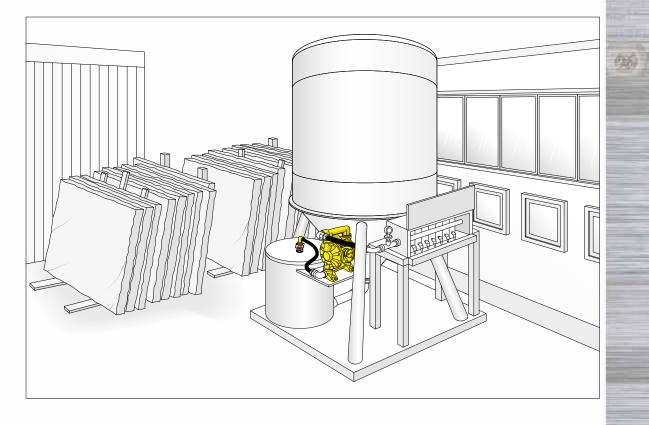
ATEX CERTIFICATION

PRODUCT SERIES	DESCRIPTION	CERTIFICATION CLASS	
VERSION IN NON-CONDUCTIVE MATERIAL POLYPROPYLENE)	Made from non-conductive plastic material and/or with non-conductive central body, or in metallic material with non-conductive central body	IIB 3GD c TX (for zone 2)	
VERSION IN CONDUCTIVE MATERIAL (ALUMINUM)	Made with pump bodies and/or manifolds in conductive plastic materials (PP) and metallic materials (Aluminum, Stainless Steel)	II 2GD c IIB T4 X (for zone 1)	

AUTOMOTIVE AND LUBRICANTS INDUSTRY



MARBLE INDUSTRY

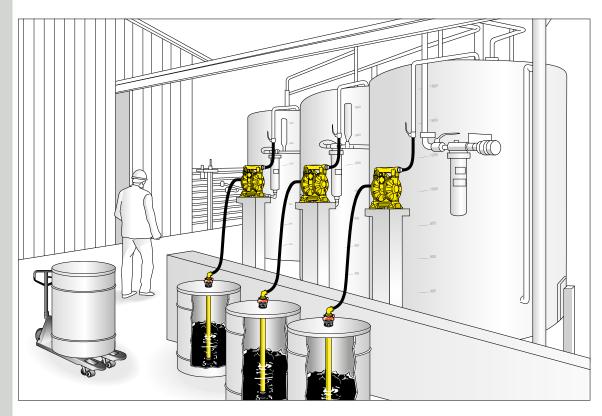


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