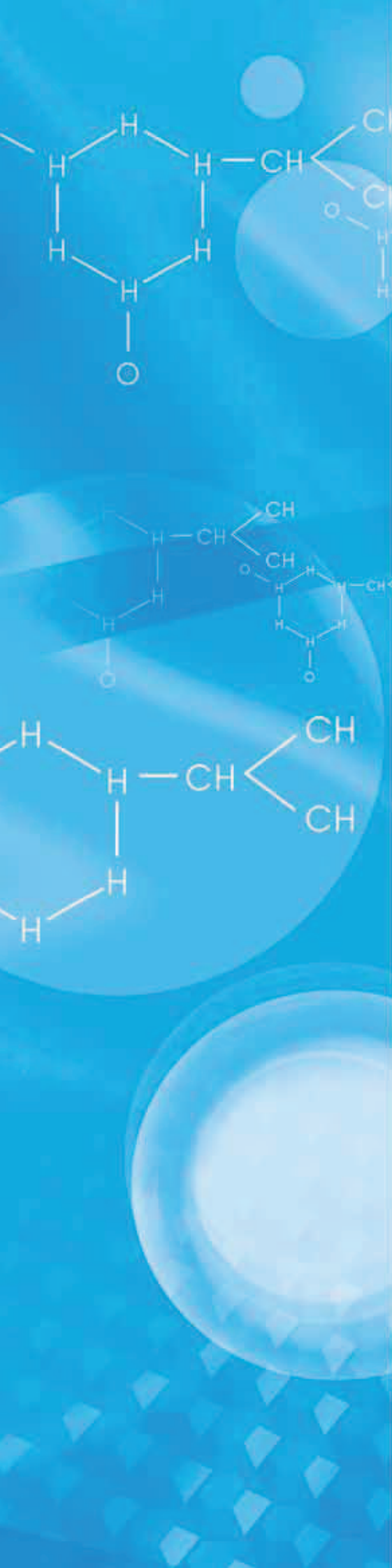


CHEMICAL COMPATIBILITY





The information given in the following tables was obtained from various sources which, for competence and technical knowledge, we deem reliable. This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

Raasm declines all liability for any inaccuracies contained in the following tables due to printing, transcription or appraisal errors and, in case of no previous experience confirming suitability, recommends the practical testing of the materials that will come into contact with the fluids to be pumped.

The life of the diaphragm, the balls and their seats, does not only depend on the chemical compatibility with the pumped fluid but also on the work conditions. Such conditions can vary according to the abrasiveness of the fluid, the pressure, the period of work, temperatures, etc.

Consult your Raasm authorised distributor regarding the work materials most suitable for your applications.

Note: In some cases the corrosive action of halogenated solvents in contact with aluminium or with galvanised materials can cause explosions.

To prevent any risk, **when transferring halogenated solvents make sure to use pumps in stainless steel or PVDF.**

CHEMICAL COMPATIBILITY CHARACTERISTICS

► HOW TO READ THE CHEMICAL COMPATIBILITY TABLE

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYTREL	NBR	PTFE	SANTOPRENE	VITON
Acetaldehyde	B	A	A	A1	D	B	A	A	D	D	A	-	D
Acetamide	A	A	A	A1	C	-	A	A	-	A	A	-	B
Vinyl acetate	A1	B	-	B1	A2	D	A2	B2	D	D	A2	-	A1
Acetilene	A	A	A	A1	A2	-	A	A	A	B	A	-	A
Vinegar	D	A	B	A	B	A	A	A	-	B	A	-	A
Acetone	A	A	A	A	D	A2	A	A	B	D	A	A1	D
Fatty acids	A	A	A	A	A2	A	A	D	A	B	A	D	A
Acetic acid	B	B	D	B	C	B	A	A	D	C	A	C	B
Acetic acid 20%	B	A	C	A	A	B	A	A	-	B	A	C	B
Acetic acid 80%	B	B	D	A	C	B	A	A	-	C	A	C	B
Glacial acetic acid	B	A	D	A1	A1	B	A	B	A1	C	A	-	D
Adipic acid	A	A2	-	B2	A2	-	A	A2	-	C	A	-	A2
Arsenic acid	D	A2	D	A	A	-	A	A2	-	A2	A	-	A2

EXCELLENT	A
GOOD	B
POOR, NOT RECOMMENDED	C
SERIOUS AGGRESSION, NOT RECOMMENDED	D
INFORMATION NOT AVAILABLE	-
SATISFACTORY UP TO 22° C	1
SATISFACTORY UP TO 48° C	2


For further information contact the RAASM technical service

► COMPATIBILITY OF PARTS IN CONTACT WITH FLUID

TYPE OF FLUID	PH LEVEL	PARTS IN CONTACT WITH FLUID	
ALKALINE CAUSTIC BASIC	14	STAINLESS STEEL	
	13		
	12		
	11		
BASIC	10	CAST IRON	
	9		
NEUTRAL	8	ALUMINIUM	
	7		
	6		
ACID	5	CAST IRON	
	4		
	3	STAINLESS STEEL	
			2
			1
			0


► TEMPERATURE COMPATIBILITY

PARTS IN CONTACT WITH FLUID	NICKEL-PLATED ALUMINIUM	-50 °C +80 °C
	AISI 316 STAINLESS STEEL	-50 °C +110 °C
	ACETAL	0 °C +100 °C
	POLYPROPYLENE	-10 °C +65 °C
	PVDF	-12 °C +105 °C
	POLYETHYLENE	-20 °C +70 °C
	PTFE	-20 °C +100 °C
MATERIALS FOR DIAPHRAGM	EPDM	-25 °C +90 °C
	HYTREL	-20 °C +104 °C
	NBR	-15 °C +82 °C
	PTFE	-20 °C + 100 °C
	SANTOPRENE	-20 °C + 107 °C
	VITON	-40 °C + 170 °C

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.


CHEMICAL COMPATIBILITY TABLE

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Acetaldehyde	B	A	A	A1	D	B	A	A	D	D	A	-	D
Acetamide	A	A	A	A1	C	-	A	A	-	A	A	-	B
Vinyl acetate	A1	B	-	B1	A2	D	A2	B2	D	D	A2	-	A1
Acetilene	A	A	A	A1	A2	-	A	A	A	B	A	-	A
Vinegar	D	A	B	A	B	A	A	A	-	B	A	-	A
Acetone	A	A	A	A	D	A2	A	A	B	D	A	A1	D
Fatty acids	A	A	A	A	A2	A	A	D	A	B	A	D	A
Acetic acid	B	B	D	B	C	B	A	A	D	C	A	C	B
Acetic acid 20%	B	A	C	A	A	B	A	A	-	B	A	C	B
Acetic acid 80%	B	B	D	A	C	B	A	A	-	C	A	C	B
Glacial acetic acid	B	A	D	A1	A1	B	A	B	A1	C	A	-	D
Adipic acid	A	A2	-	B2	A2	-	A	A2	-	C	A	-	A2
Arsenic acid	D	A2	D	A	A	-	A	A2	-	A2	A	-	A2
Benzoic acid	B	B	B	B1	A	A	A2	D	D	D	A2	-	A
Boric acid	D	A1	A	A	A	A	A	A	A1	A	A	A	A
Hydrogen bromide 100%	D	D	D	C1	A	A	A	A	D	D	A	-	A
Hydrogen bromide 20%	D	D	C	A2	A	A	-	A	-	D	-	-	A
Butyric acid	B	B2	A	B1	A	B	A2	B	B1	D	A2	D	B1
Carbolic acid (phenol)	A	B	D	B	A1	B	A	B	D	D	A	D	A
Carbonic acid	B1	A	B1	A	A	A	A	B	D	D	A	D	A
Cyanic acid	-	A	D	-	-	-	A	-	-	C	A	-	A
Cyanic acid	A	A	B	A	A	A	A	B	D	B	A	A	A
Cyanic acid (gas 10%)	-	-	C	A	-	-	A	A	-	B	A	-	A
Citric acid	C	A2	B1	A	A	A	A	A	A1	A	A	A	A
Chloric acid	D	C1	D	-	-	-	A	-	-	-	A	-	-
Hydrochloric acid (gas)	D	D	-	B	A	-	A	-	-	-	A	-	-
Hydrochloric acid 100%	D	D	C	B1	A	-	A	D	D	D	A	-	A
Hydrochloric acid 20%	D	D	C	B2	A	A	A	A	B	-	A	A	A
Hydrochloric acid 37%	D	D	C	C	A	C	A	C	-	B	A	C	A
Chloroacetic acid	D	A1	D	C1	A1	D	A	B	D	D	A	D	D
Chlorosulphonic acid	C	B2	D	D	D	D	D	D	D	D	D	-	D
Cresylic acid	B2	A1	D	A1	B1	-	A	D	-	D	A	-	A
Chromic acid 10%	D	B2	D	D	A	A	A	C	D	D	A	-	B
Chromic acid 30%	D	B2	D	D	A2	A	A	B	D	D	A	D	A
Chromic acid 5%	C	A	D	D	A	A	A	A	D	D	A	-	A
Chromic acid 50%	D	B2	D	D	A2	A	A	B	D	D	A	D	A
Fluoboric acid	D	B	A1	A	A1	A	A	A2	-	A	A	-	B
Hydrofluoric acid 100 %	D	B1	D	C1	A	A1	A	D	D	D	A	D	B
Hydrofluoric acid 20 %	D	D	D	A2	A	-	A	D	D	D	A	-	A
Hydrofluoric acid 50 %	D	D	D	A2	A	-	A	D	D	D	A	-	B
Hydrofluoric acid 75 %	D	D	D	C1	A	-	A	C	D	D	A	-	B
Fluosilicic acid	D	B	A1	A	A1	A	A	A2	-	A	A	-	B1
Fluosilicic acid 100%	D	D	A	A	A1	A	A	A	A	B	A	-	A
Fluosilicic acid 20%	D	B1	B	A	A	-	A	A	-	A	A	-	A
Formic acid	A	A1	A2	A1	A	A	A	A	B	C	A	A	C
Phosphoric acid (<40%)	C	C	D	A2	B	-	A	B	-	D	A	-	A
Phosphoric acid (>40%)	C	D	D	A2	B	A2	A	B	D	D	A	-	A
Phosphoric acid (raw)	C	B	D	B2	A	-	A	B	-	D	A	-	A
Phosphoric acid (liquefied)	C	C	D	D	D	-	-	-	-	-	-	-	-
Anhydride of phosphoric acid	C	-	D	A	D	-	-	-	-	D	-	-	-
Phthalic acid	B2	A	C	A	A2	A	A2	A1	-	D	A2	-	A1
Gallic acid	D	B	-	A	A1	A	B	B	-	B	B	-	A
Glycolic acid	-	A	A	A	B	-	A	A	-	A	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.


A	B	C	D	-	1	2
EXCELLENT	GOOD	POOR, NOT RECOMMENDED	SERIOUS AGGRESSION, NOT RECOMMENDED	INFORMATION NOT AVAILABLE	SATISFACTORY UP TO 22°C	SATISFACTORY UP TO 48°C

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Hydroxyacetic acid 70%	-	-	A	-	A	-	A	A	-	A	A	-	A
Lactic acid	B	B1	B	B	B1	A	A	A	D	A	A	-	A
Linoleic acid	A2	A	B	B1	A2	-	A	D	-	B1	A	-	B1
Maleic acid	B1	B	A	A	A2	A	A	D	-	D	A	-	A
Malic acid	B1	B	A	A	A2	A	A	D	-	D	A	-	A
Monochloro acetic acid	D	A1	D	-	B1	D	A2	C	-	D	A2	D	C
Nitrating acid (<1% acid)	D	A	-	C	-	-	A	-	-	-	A	D	-
Nitrating acid (<15% H2SO4)	D	C	-	C	-	-	A	-	-	-	A	D	-
Nitrating acid (<15% HNO3)	D	D	-	C	-	-	A	-	-	-	A	D	-
Nitrating acid (>15% H2SO4)	D	C	D	C	-	-	A	A1	-	D	A	D	-
Nitric acid (20%)	D	A	D	A2	A2	D	A	A1	D	D	A	D	A
Nitric acid (50%)	D	A1	D	B	A1	D	A	D	D	D	A	D	A
Nitric acid (5-10%)	A	A	D	A	A1	A	A	A1	D	D	A	-	A
Nitric acid (concentrated)	D	A1	D	D	A1	D	A	D	-	D	A	D	A
Nitrous acid	D	B	-	A	B	-	A	A	-	-	A	-	B
Oleic acid	A	A	A	B1	A	A	A	B	A	B1	A	-	B
Oxalic acid (cold)	A	A	B	A2	B	A	A1	A	D	D	A1	A	A
Palmitic acid	B	A1	A	B1	A2	-	A2	B1	A	A2	A2	A	A1
Perchloric acid	D	C	C	C	A	C	A	B	-	D	A	-	A
Picric acid	C	B	A	B1	A1	-	A	B	D	C	A	-	A
Pyrogalllic acid	B	B	D	A	A	-	A	B	-	-	A	-	A
Cupric acid	D	B2	-	A2	-	-	A	A2	-	B2	A	-	A2
Salicylic acid	B2	B2	D	A1	A	-	A2	A	-	B	A2	-	A1
Sulphuric acid (<10%)	D	B	D	A2	A	D	A	A	A	A1	A	-	A
Sulphuric acid (10-75%)	D	D	D	A1	A	D	A	B2	D	B1	A	A	A2
Sulphuric acid (75-100%)	D	D	-	C1	A	D	A	B1	D	C	A	C	A1
Sulphuric acid (concentrated, hot)	D	C	-	D	C	D	A	D	-	D	A	D	A2
Sulphuric acid (concentrated, cold)	B	B	-	A2	A	D	A	C	-	D	A	D	B
Fuming sulphuric acid 100%	B	A	D	D	D	-	A	D	D	D	A	-	A
Fuming sulphuric acid 25%	B	B	D	D	C1	-	A	D	-	D	A	-	A
Sulphurous acid	B1	B	C	A	A	D	A	B	-	B1	A	-	A
Stearic acid	B	A	A	A2	A	-	A	B	A	B	A	A	A1
Tannic acid	C	A	B	A	B	A	A	A	A	A	A	A	A
Tartaric acid	B1	C2	B	A	B	A	A	B	A	A	A	A	A
Trichloroacetic acid	D	C	-	A	B	-	A	B	-	-	A	-	C
Uric acid	D	B	-	-	-	-	A	-	-	-	A	A	-
White water	-	A	B	A	-	-	-	-	A	-	-	-	A
Carbonated water	A	A	A	B	-	-	-	-	-	A	-	-	A
Deionised water	A2	A2	-	A2	A2	-	A2	A1	-	A1	A2	-	A1
Chlorine water	D	C	D	D	B	-	A	C	-	D	A	D	A
Seawater	B	C	A	A	A	A	A	A2	A	A2	A	A	A
Distilled water	A	A	B	A	A	-	A	A	-	A	A	A	A
Fresh water	B	A	A2	A	A	A	A	A	A	A	A	A	A
Mineral water	D	B	A1	A	A	-	A	A	-	A	A	-	A
White spirit	A	A	A	B	-	-	A	D	A	A	A	-	A
Salty water	B	B	A	A	A	A	A	A	-	A	A	A	A
Turpentine (80% HCl, 20% HNO3)	D	D	D	B1	A2	B	A	C	D	D	A	-	B
Amyl alcohol	B	A	A	B1	A	A	A	A	A	B	A	A	A
Benzyl alcohol	B	B	A	A	A	A	A	B	-	D	A	-	A
Butyl alcohol	B	A	A	A	A	A	A	A2	A	C	A	B	A
Diacetone alcohol	A1	A	A	B2	A1	-	A	A	-	D	A	-	D
Diacetone alcohol	A1	B	-	A1	D	-	A	A	-	D	A	-	D
Ethyl alcohol	B	A	A1	A	-	-	A	A	A	C	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.


CHEMICAL COMPATIBILITY TABLE

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Hexyl alcohol	A	A	A	-	-	-	A	C	-	A	A	-	C
Iso-butyl alcohol	B	A	A	A1	-	A	A2	A	-	B	A2	-	A
Iso-propyl alcohol	B	B	A	A2	-	A	A2	A	A	B	A2	-	A
Methyl alcohol	A1	A	A	A2	A	A	A	A	B	A	A	A	C
Octyl alcohol	A	A	A	-	-	-	-	A	-	B	-	-	B
Propyl alcohol	A	A	A	A	A2	A	A	A	-	A	A	A	A
Alums	A	A	-	A	-	-	A	A1	D	A	A	-	A
Aluminium hydroxide	B1	C1	A	A	A	-	A	A	-	A	A	-	A
Aluminium potassium sulphate 10%	C	A	C	A	B	A	A	A	-	A	A	-	A
Aluminium potassium sulphate 100%	C	B2	C	A	-	A	A	A	-	A	A	-	A
Starch	A	A	A	A2	-	-	A	A	-	A	A	-	A
Amyl acetate	A	A	B1	B1	A2	B	A	A	D	D	A	D	D
Amyl chloride	A1	A2	A	D	A	-	A	D	-	D	A	-	B1
Amines	B	A	D	B2	-	A	A2	B	A1	D	A2	-	D
Ammonia 10%	A2	A	D	A2	A	A	A	A	D	A	A	-	D
Anhydrous ammonia	A1	A2	D	A2	A	A	A	A	D	B	A	-	D
Liquid ammonia	A	A2	D	A2	A	-	A	A	-	C	A	-	D
Ammonium acetate	A	A	-	A	-	-	A	A	-	B	A	-	A
Ammonium bifluoride	B	B1	D	A	A	-	A	A2	-	B	A	-	A
Ammonium carbonate	B	B	D	A	A	A	A	A	-	B	A	-	A
Ammonium chloride	B1	B2	B	A	A	A	A	A	A1	B	A	-	A
Ammonium phosphate dibasic	B1	C	B2	A	A	B	A2	A	-	A	A2	-	A
Ammonium phosphate monobasic	B	C	B	A	-	B	A	A	-	A	A	-	A
Ammonium phosphate tribasic	B	B	B	A	-	B	A	A	-	A	A	-	A
Ammonium hydrate	B2	A1	C	A	A	A	A	A	D	D	A	-	B
Ammonium thiosulphate	-	A	B	-	-	-	-	A1	-	A	-	-	-
Ammonium nitrate	B1	A	A2	A	A	A	A	A	A	A	A	-	A
Ammonium oxalate	-	A	B	A	-	-	-	A	-	D	-	-	-
Ammonium persulphate	D	B	D	A	A1	A	A1	B	-	A	A1	-	A
Ammonium sulphate	A1	B	B1	A	A	A	A	A	A	A	A	-	A
Ammonium sulphite	D	B	D	A2	-	D	A2	A1	B1	A1	A2	-	D
Acetic anhydride	A1	A	D	B1	B1	D	A	B	D	D	A	D	D
Phthalic anhydride	A1	A	C	D	A	-	A	A	-	D	A	-	A
Maleic anhydride	A1	A	D	D	A	-	A	D	-	D	A	-	A
Aniline	C	B	A1	A1	A1	B	A	B	D	D	A	A	A
Aniline hydrochloride	D	D	-	D	A2	-	A	B	-	D	A	-	A
Antifreeze	A	A	D	D	-	-	-	A	A	A	-	A	A
Antimony trichloride	D	D	-	A	A	A	A	B1	-	B	A	-	A2
Antirust	-	A	A	A	-	-	-	-	-	A	-	-	A
Silver bromide	D	D	C	-	-	-	A	-	-	-	A	-	-
Silver nitrate	D	B	A	A1	A	A	A	A	-	B	A	-	A
Arochlor 1248	A	B	-	D	-	-	A	B	-	C1	A	-	A
Asphalt	A	A	B2	B1	A	-	A1	D	B1	B	A1	-	A
Nitrogen fertilizer	-	-	-	-	-	-	A	-	-	-	A	-	-
Barium carbonate	D	B	A	A	A	B	A	A	-	A2	A	-	A
Barium cyanide	C1	A2	B	D	-	-	A1	A	A	C	A1	-	A
Barium chloride	D	A1	A	A	A	B	A	A	A	A	A	-	A
Barium hydroxide	D	B	D	B	A	-	A	A	B1	A	A	-	A
Barium nitrate	B	B	B2	A	-	B	A1	A	-	A2	A1	-	A
Barium sulphate	B	B1	B2	B1	A	A	A	A	B1	A	A	-	A
Barium sulphite	D	B2	A	B	A	A	A	A	D	A	A	-	A
Benzaldehyde	B	B	A	D	A2	-	A1	A	B	D	A1	D	D
Benzene	B	B	A1	D	A2	C1	A	D	D	D	A	D	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

A	B	C	D	-	1	2
EXCELLENT	GOOD	POOR, NOT RECOMMENDED	SERIOUS AGGRESSION, NOT RECOMMENDED	INFORMATION NOT AVAILABLE	SATISFACTORY UP TO 22°C	SATISFACTORY UP TO 48°C

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Benzene sulphonic acid	D	B	-	D	-	-	A	D	B	D	A	-	A
Benzyl chloride	D	B1	A	C1	-	-	-	D	-	D	-	-	A2
Petrol (highly aromatic)	D	A	B	A	A	C	B	D	-	A	B	-	A
Leaded petrol	A	A2	A	B	A	C	A	D	A	A2	A	-	A1
Unleaded petrol	A2	A2	A	C1	A	C	A	D	D	A1	A	-	A1
Benzol	B1	A1	A	B	A	-	A	D	-	D	A	-	A
Benzonitrile	-	D	-	-	-	-	A2	-	-	-	A2	-	-
Beer	A	A	A1	A1	A	A	A	A	A1	A	A	-	A
Borax (sodium tetraborate)	B1	A	B	B	A	A	A	A	A1	B	A	-	A
Bromine	D	D	D	D	A	D	A	D	-	D	A	-	A
Acetyl bromide	-	-	-	-	-	-	A	-	-	-	A	-	-
Butter	A	A	A	-	-	-	A	A	-	A	A	D	A
Butadiene	A	A1	A	C1	A	C	A2	C	-	D	A2	-	B
Butane	A	A2	A	A1	A	-	A	D	-	A	A	-	A
Butanol	B	A1	A	A1	A	A	A2	A2	-	A	A2	B	A
Butyl acetate	A	A	A	B1	B2	B	A	B	B	D	A	-	D
Butylamine	A2	A	C1	B1	A1	-	A2	-	-	-	A2	D	D
Butylene	A	A	A	-	A	-	A	D	-	A	A	D	A
Coffee	A	A	A	A	-	-	-	A	-	A	-	-	A
Quicklime	A	A	B	-	A	A	A1	D	-	A	A1	-	A
Calcium bisulphate	-	A	-	-	-	-	-	A	-	A	-	-	-
Calcium bisulphite	D	A	D	A	A	A	A	D	B1	A	A	-	A
Calcium bisulphide	C	B	D	A	A	-	A	C	B1	A1	A	-	A
Calcium carbonate	D	B	A	A	A	-	A	A	-	A	A	-	A
Calcium chlorate	-	-	A	-	A	-	A	A	-	A	A	-	A
Calcium chloride	D	B2	D	A2	A	A	A	A	A1	A	A	-	A
Calcium hydroxide	C1	B	D	A2	A2	D	A	A	B1	A	A	-	A
Calcium hypochlorite	D	B1	D	A1	A	A1	A	B1	B	C1	A	-	A
Calcium nitrate	B1	B2	D	A2	A2	-	A2	A2	-	A2	A2	-	A2
Calcium oxide	C	A	A	A	A	-	A	A	A	A	A	-	B
Calcium sulphate	C	B	D	A	A	-	A	A	-	A2	A	-	A
Calgon	-	A	A	A	-	-	-	A	-	A	-	-	A
Carbon bisulphide	B	B	A	D	-	-	-	D	D	C1	-	-	A
Carbon dioxide (dry)	B1	A1	A	A2	A	C	A	B	A	A	A	-	B
Carbon dioxide (solution)	A1	A1	A	A2	A	C	A	B	-	A	A	-	B
Carbon monoxide	A	A	A	A	B	C	A	A	A	A	A	-	A
Carbon tetrachloride	D	B	B1	D	A2	D	A	D	B	D	A	-	A
Carbon tetrachloride (dry)	D	B2	-	D	A2	D	A	B1	-	C1	A	D	A2
Carbon tetrachloride (solution)	D	A2	A1	D	A2	C	A	D	-	D	A	D	-
Aviation fuel	A	A	A1	A1	B	-	A	D	-	A	A	D	A
Ammonium caseinate	-	A	D	-	-	-	-	-	-	-	-	-	-
Ketones	B	A	D	C	C1	C	A	A	-	D	A	D	D
Cyclohexane	A	A	A1	D	A	A	A	D	A1	B	A	D	A
Cyclohexanone	A	A2	A	D	D	A	A	B	-	D	A	-	D
Chlorine (dry)	C1	B	D	D	A	B	A	A	-	B	A	D	A
Chlorine, anhydrous liquid	D	C	A1	D	A1	-	A	B	-	D	A	-	A
Chlorobenzene	A	B	D	C1	A1	B	B	D	D	D	B	D	A
Chlorobromomethane	-	-	-	A1	-	-	A	B	-	D	A	-	A
Chloroform	B1	A	A	C1	A	D	A1	D	D	D	A1	D	A
Clorox® (bleach)	A	A	D	D	A	-	A	B	-	D	A	-	A
Acetyl chloride(dry)	D	A	D	D	A2	-	A	D	-	D	A	A	A
Aluminium chloride	D	B	-	A	A	A	A	A	A	A	A	-	A
Aluminium chloride 20%	D	C1	C	A	A	-	A	A	-	A	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

CHEMICAL COMPATIBILITY TABLE


TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYTREL	NBR	PTFE	SANTOPRENE	VITON
Sulfuryl chloride	-	-	A	-	-	-	A	-	-	-	A	-	-
Vinyl chloride	B1	A1	-	-	B1	-	A2	C	-	D	A2	-	A1
Ferrous chloride	D	D	D	A	A	A	A	-	-	A	A	-	A
Stannic chloride	D	D	C	A	A	-	A	A	A	A	A	-	A
Stannous chloride	D	A2	-	A	A	-	A	C	-	A	A	-	A
Chlorinated glue	-	A	D	-	-	-	-	B	-	B	-	-	A
Glue, P.V.A.	A	A2	A	-	-	A	A	A	A	A	A	-	B
Dyes	B	A	C	-	-	-	-	-	-	-	-	-	A
Cresols	A	A	D	D	A2	-	-	D	D	D	-	-	A
Detergents	B	A1	A1	A	A2	A	A	A	-	A	A	-	A
Dichlorobenzene	B1	B1	-	C1	A	D	A	D	D	D	A	D	C
Dichloroethane	B1	B1	A1	D	A	D	A1	-	-	D	A1	D	C
Diesel (gas oil)	A1	A1	A	A1	A	D	A	D	B	A	A	D	A
Diethylamine	B	A	B	A1	D	-	D	B	-	C	D	-	A
Diethylamine glycol	B1	A	A1	A2	A	A	A2	A2	-	A2	A2	A	A2
Diphenyl	B2	B	-	D	-	-	A	D	-	D	A	-	A2
Diphenyl oxide	B1	A	D	D	B2	-	A1	D	-	A	A1	-	A
Dimethylamine	A2	B2	D	D	A1	A	A	B2	-	D	A	-	D
Dimethylformamide	A1	B	D	A	D	A	A	B	-	D	A	A	C
Weed killers	D	A	A	-	-	-	-	-	-	A	-	-	A
Heptane	A	A	A	C2	A	A	A	D	A	A	A	A	A
Hexane	A	A	A	B1	A	C	A	D	A	A	A	-	A
Ethane	-	A1	A1	D	A	-	A	D	-	A	A	-	A
Ethanolamine	B	A	D	D	C1	A	A1	B	-	B	A1	-	D
Ethanol	B	A	A1	A	-	A	A	A	-	C	A	A	A
Ether	B1	A	A1	D	B1	B	A	C	D	D	A	-	C
Butyl ether	A1	A1	D	D	A1	-	A1	D	-	B2	A1	D	D
Diethyl ether	B	B2	-	A1	A1	A	A	D	-	D	A	A	D
Ethyl ether	B1	B	A1	D	A2	D	A	D	D	D	A	-	D
Ethyl acetate	A2	B	A	A1	D	A2	A	B	B	D	A	-	D
Ethyl benzoate	-	-	-	B1	D	-	A	-	-	D	A	-	A1
Ethyl chloride	B	A	A1	D	A	D	A	A	D	A	A	D	A
Ethyl sulphate	-	D	-	-	-	-	A	-	-	A	A	-	A
Ethylene chlorohydrine	B	B	D	D	A	-	A	B	-	D	A	D	A
Ethylenediamine	B1	B	D	-	B	A	A	A	-	A	A	-	B
Ethylene dichloride	A1	B	B1	D	A	C	A	C	D	D	A	D	A
Ethylene bromide	B	A	-	D	A	-	A	C	-	D	A	-	A
Ethylene chloride	B	B	A1	C1	A	B	A	D	-	D	A	-	B
Ethylene oxide	D	B	D	D	A	-	A	C	A	D	A	-	D
Ethylene glycol	A	B	B	A	A	A	A	A	A	A	A	A	A
Phenol (10%)	A	B	B	B1	A	-	A	B	D	D	A	-	A
Phenol (carbolic acid)	A	B	D	B	A1	B	A	B	-	D	A	-	A
Iron chloride	D	D	D	A	A	D	A	A	A	A	A	-	A
Iron nitrate	D	B	D	A	A	A	A	A	-	A	A	-	A
Iron sulphate	D	A	D	A	A	-	A	A	A	A	A	-	A
Stannic fluoroborate	-	A	C	-	-	-	-	-	-	A	-	-	A
Fluorine	A	A	D	D	A1	C	D	A1	-	D	D	-	C
Aluminium fluoride	B1	D	C	A	A	A	A	A	-	A	A	-	A
Formaldehyde 100%	A	A	A	C	A	A	A	A	B	C	A	A	D
Formaldehyde 40%	B	A	A2	A	A	-	A	A	-	B	A	A	A
Phosphorous	B	A2	B	A	A1	A	A2	-	-	-	A2	-	-
Phosphorous trichloride	D	A2	D	-	A2	A	A2	A1	-	D	A2	-	A1
Freon 113	-	-	A	D	B	-	A	D	-	A	A	-	B



This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

A	B	C	D	-	1	2
EXCELLENT	GOOD	POOR, NOT RECOMMENDED	SERIOUS AGGRESSION, NOT RECOMMENDED	INFORMATION NOT AVAILABLE	SATISFACTORY UP TO 22°C	SATISFACTORY UP TO 48°C

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYTREL	NBR	PTFE	SANTOPRENE	VITON
Freon 12	B1	B	B	A2	A	-	A	B	D	A	A	-	B
Freon 22	D	A	A	B	A	-	A	A	-	D	A	-	D
Freon TF	D	A	A	D	B	-	A	D	-	A	A	D	B
Freon® 12	D	A	D	A	A	-	A	D	-	B	A	-	B
Butyl phthalate	B2	B2	-	B2	B1	A	A2	B2	-	D	A2	-	C1
Furfural	A1	B	A	D	B2	A	A	D	A	D	A	-	D
Natural gas	A	A	B	A	-	-	A	D	D	A	A	D	A
Gelatine	A	A2	B	A	A	A	A	A	-	A	A	-	A
Glycerine	A	A	A	A	A	A	A	A	A	A	A	D	A
Glucose	A	A	A	A	A	A	A	A	-	A	A	-	A
Shellac (orange)	A	A	A	A	-	-	A	A	-	A	A	-	A
Shellac (bleached)	A	A	A	A	-	-	A	A2	-	A2	A	-	A
Grease	-	A	D	-	A	-	A	D	A	A	A	D	A
Hydrazine	-	A	B	C	A	-	A	A	-	B	A	-	A
Aromatic hydrocarbons	A	C	A	D	-	-	-	D	-	D	-	-	A
Hydroquinone	B	B	A	A	-	-	A	D	-	D	A	-	B
Hydrogen (gas)	A	A	-	A	A	A	A	A	A	A	A	-	A
Hydrogen peroxide 10%	A	B	D	A	A	A	A	A	-	D	A	-	A
Hydrogen peroxide 100%	A	A2	D	B1	A1	-	A	D	D	D	A	-	A
Hydrogen peroxide 30%	A	B	D	B1	A	A	A	B	-	D	A	-	A
Hydrogen peroxide 50%	A	A2	D	B1	A1	-	A	B	-	D	A	-	A
Hydrogen sulphide (dry)	B	A2	-	A1	A	A	A	B	A	D	A	-	D
Hydrogen sulphide (solution)	B	A2	C	A1	A	A	A	B	-	D	A	-	D
Ink	-	C	B	-	A	A	A	-	-	A	A	-	A
Iodine	A	D	D	C	A2	A	A	B	-	B	A	-	A
Iodine (in alcohol)	B	-	D	-	A	-	-	A	B	-	-	-	-
Iodoform	-	A	-	-	C	-	C	A	-	D	C	-	-
Iso-octane	A1	A1	-	A2	A2	A2	A	D	A	A2	A	D	A1
Iso-propyl acetate	D	A	D	B1	D	C	A	B	-	D	A	-	D
Iso-propyl ether	A	A	D	B1	D	A	A1	D	-	B	A1	-	D
Isotane	D	-	-	D	A	-	-	-	-	A	-	-	A
Kerosene	A	A	A2	B	A	C	A	D	B	A	A	D	A
Ketchup	D	A	B	A	-	-	-	A	-	A	-	-	A
Lacquers	A	A	D	D	D	-	A	D	D	D	A	-	D
Lard	A	A	A	B1	A	A	A	D	-	A	A	A	A
Milk	A	A	A	B	A2	A	A	A	-	A1	A	-	A
Latex	A	A2	B	A2	A	-	A	A	-	A	A	-	A
Ligroin	D	A	B	A2	A	-	A	D	-	A	A	-	A
White liquor	B	A	D	A1	A1	-	A	-	-	A	A	-	A
Lithium chloride	D	A2	A	A2	A2	D	A	A1	-	A2	A	-	A1
Lithium hydroxide	D	B	-	-	-	D	A	-	-	C	A	-	-
Lubricants	A2	A2	A	A1	A	A	A	D	A	A	A	-	A
Magnesium bisulphate	D	A1	-	A2	-	-	A	-	-	B	A	-	-
Magnesium carbonate	A	B	A	A	A	-	A1	A	-	A2	A1	-	A
Magnesium chloride	D	D	B1	A2	A	A	A	A	B	A2	A	-	A2
Magnesium hydroxide	C1	A1	A	A	A	A	A	A	B	A	A	-	A
Magnesium nitrate	B	B	A	A	A	A	A	A	-	A	A	-	A
Magnesium oxide	B	A	A	-	-	-	A	-	-	A	A	-	C
Magnesium sulphate (Epsom salts)	B1	B	B	A	A	-	A	A	A	A	A	-	A
Mayonnaise	A	A	A	-	A	-	A	-	-	C	A	-	A
Malt whisky	A	A	A	-	-	-	-	A	-	A	-	-	A
Manganese sulphate	B1	B2	A1	-	A2	-	A	A2	-	A2	A	-	A2
Melamine	-	D	A	A	-	-	A	A	-	C	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

CHEMICAL COMPATIBILITY TABLE

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYTREL	NBR	PTFE	SANTOPRENE	VITON
Molasses	A	A	A	B	B1	A	A	A1	-	A	A	-	A
Mercury	D	A	A	B	A	A	A	A	B	A	A	-	A
Mercury cyanide	D	C	-	B	A	-	B	A1	-	A	B	-	A1
Mercury chloride (diluted)	D	D	B	B	A	A	A	A1	B	A	A	-	A
Methane	A	A	A	A	A	-	A	D	-	A	A	D	A
Methanol (methyl alcohol)	A1	A	A	A2	A	A	A	A	A	A	A	A	C
Methyl acetate	A	B	B	D	B1	-	A	B	-	D	A	-	D
Methyl acetone	A	A	D	-	D	-	A	A1	-	D	A	-	D
Methylamine	A	A	D	A2	C	-	A	A1	-	B	A	-	D
Methyl butyl ketone	-	A	D	D	D	-	-	A1	-	D	-	-	D
Methyl chloride	C	B	B	B1	B1	B	A	C1	D	D	A	D	B
Methyl acrylate	-	-	B	D	B1	-	-	B	D	D	-	-	D
Methyl alcohol 10%	A1	A	A	A2	A	A	A	A	B	A	A	-	C
Methyl dichloride	-	-	D	D	D	-	-	D	-	D	-	-	A1
Methyl bromide	D	A	D	C	A	C	A	D	-	B1	A	D	A
Methyl cellosolve	B	B	D	B	A	-	A	B2	-	A1	A	A	D
Methyl chloride	D	A	B	D	A	-	A	D	D	D	A	D	A1
Methyl ethyl ketone	B	A	C	B	D	A	A	A2	A	D	A	D	D
Methyl ethyl peroxide	-	-	-	-	-	-	-	D	-	D	-	-	D
Methyl iso-butyl ketone	B	B	-	A	D	-	A	B1	B	D	A	-	D
Methyl isopropyl ketone	A	A	-	-	-	-	A	C1	D	D	A	-	D
Methyl methacrylate	-	B	D	D	B1	-	-	D	D	D	-	-	D
Honey	A	A	A	A	A	-	A	A	-	A	A	-	A
Monoethanolamine	B	A	D	B	C	-	A	B	-	B1	A	-	D
Morpholine	A1	A1	-	B2	B1	-	A2	D	-	D	A2	-	-
Mustard	B	A	C	A	A	-	A	A	D	B1	A	A	D
Must	-	A	A	-	A	-	A	A	-	A	A	-	A
Naphtha	A1	A	A1	B	A	C	B	D	A	A	B	D	A
Naphthalene	B1	A	A1	B	A2	A	A	D	B	D	A	D	A
Nickel chloride	D	C	A	A	A	A	A	A1	D	A1	A	-	A
Nickel nitrate	D	B2	-	A2	A2	A	A2	A2	-	A1	A2	-	A2
Nickel sulphate	D	B1	A	A	A	A	A	A1	-	A1	A	-	A
Aluminium nitrate	D	A	B1	A2	A2	-	A	A2	-	A2	A	-	A2
Ammonia nitrate	C	A	C	A	A	-	A	A	-	C	A	-	D
Mercurous nitrate	D	A1	-	A	A	-	A	A1	-	B1	A	-	A1
Acrylonitrile	B1	A1	-	A1	A1	-	A	D	-	D	A	D	D
Nitrobenzene	B	B	C	B1	A1	A	A	B1	D	D	A	-	B
Nitromethane	A	A1	A	B2	A2	-	A	B2	-	D	A	-	D
Fuel oils	C1	A	A	A	B	D	B	D	A	A	B	-	A
Animal oil	-	A	D	A	A	-	A	-	-	A	A	-	A
Fuel oil (1, 2, 3, 5A, 5B, 6)	C1	A	D	B	B	D	A	D	A	B	A	-	B
Diesel oil (20, 30, 40, 50)	A	A	D	A1	A	D	A	D	A1	A	A	D	A
Bay leaf oil	-	A	D	-	A	-	-	-	-	-	-	-	A
Anise oil	-	A	D	-	-	-	-	-	-	-	-	-	-
Aniline oil	D	A	D	A	A	-	A	B	-	D	A	-	C
Peanut oil	A	A	A	D	A	-	A	D	-	A	A	-	A
Orange oil	A	A	D	A	A	-	-	-	-	A	-	-	A
Cinnamon oil	-	A	D	D	-	-	A	-	-	-	A	-	A
Coconut oil	A	A	A	A1	A	-	A	D	-	A	A	-	A
Tanning oil	-	A	D	-	A	-	-	-	-	A	-	-	A
Creosote oil	B	B	D	C	-	A	A	D	-	D	A	-	A
Cod liver oil	A	A	B	A1	A	-	A	A	-	A	A	-	A
Clove oil	B	A	-	-	-	-	A	-	-	A	A	-	A



This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

A	B	C	D	-	1	2
EXCELLENT	GOOD	POOR, NOT RECOMMENDED	SERIOUS AGGRESSION, NOT RECOMMENDED	INFORMATION NOT AVAILABLE	SATISFACTORY UP TO 22°C	SATISFACTORY UP TO 48°C

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Lemon oil	A	A	D	-	A	-	A	D	-	-	A	-	A
Linseed oil	B	A	A	A	A	A	A	D	B1	A	A	-	A
Corn oil	A	A	A	A2	A	-	A	C	A	D	A	A	B
Peppermint oil	D	A	D	-	A	-	A	-	-	D	A	-	A
Olive oil	A	A	A	A	-	-	A1	D	-	D	A1	-	A
Palm oil	-	A	A	-	A	-	A	A	-	A	A	-	A
Pine oil	A	A	A	B	A	-	A	D	-	D	A	-	A
Rapeseed oil	-	A	A	D	A	-	A	A	-	D	A	-	A
Resin oil	B1	A1	-	A2	A	A	A	-	-	A	A	-	A
Castor oil	A	A	A	A	A	-	A	B	B1	B	A	D	A
Cottonseed oil	A	A	A	A	A	B	A	D	A1	A	A	-	A
Sesame seed oil	-	A	D	A	A	-	A	-	-	A	A	-	A
Silicone oil	A	A	A	A	A	-	A	A	A	A	A	-	A
Soybean oil	A	A	A	A1	A	-	A	C	B	A	A	-	A
Spermaceti oil	-	A	D	-	A	-	A	-	-	A	A	-	A
Ginger oil	-	D	A	-	A	-	A	A	-	A	A	-	A
Hydraulic oil (mineral)	A	A	B	D	A	A	A	D	-	A	A	D	A
Hydraulic oil (synthetic)	A	A	-	D	A	-	A	A	-	D	A	-	A
Mineral oil	A	A	A	A	A	C	A	D	A	A	A	D	A
Motor oil	A1	A2	B	A1	B	-	A	D	B	A	A	-	-
Oil for transformers	A	A	A	B	A	A	A	D	-	A	A	-	A
Oil for turbines	A	A	A	B1	A	-	A	A	-	B	A	-	A
Gold cyanide	-	A	A	-	A	-	D	-	-	A	D	-	A
Nitrous oxide	B	B	-	D	D	-	A	A	D	-	A	-	B
Ozone	B	A	C	B	A	B	A	A	-	D	A	-	A
Cream	A	A	A	A	-	-	A	-	-	A	A	-	A
Paraffin	A	A	A	A1	A	A	A	D	-	B	A	-	B
Pentane	B	C	B	D	A	-	A	D	A	A	A	-	A
Perchloroethylene	C	A1	B	D	A	B	A	D	D	C	A	D	A
Crude oil	D	A1	B	B1	A	C	A2	D	-	A2	A2	C	A2
Lead acetate	D	B1	B	A1	A	A	A	A	-	B	A	-	D
Lead nitrate	D	B1	-	A2	A2	A	A1	A2	-	A2	A1	-	A2
Lead sulphamate	C	C	A	A2	A	-	B	A	-	B	B	-	A
Pyridine	B	A1	B	A2	D	A	A	B	D	D	A	A	D
Potash (potassium carbonate)	D	B	B	A	A	A	-	A1	-	A	-	-	A
Potassium bicarbonate	D	B	C	A	B	A	A	A	-	A	A	-	A
Potassium dichromate	B	B1	A	A	A	A	A	A1	A	A1	A	-	A
Potassium bromide	C1	B	A	A	A	A	A	A1	-	A	A	-	A
Potassium cyanate (solutions)	D	B1	C	A	A	-	A	A1	B	A1	A	-	A
Potassium chlorate	B	B	B	A	A	A	A	A1	-	A1	A	-	A
Potassium chloride	D	A1	A	A	A	A	A	A1	A	A1	A	-	A
Potassium chromate	B1	B1	C	A	B	-	A1	A2	-	A1	A1	-	A
Potassium ferricyanide	B2	B1	B1	A2	A2	-	A2	A	-	D	A2	-	A
Potassium ferricyanide	B1	B	-	A	A	-	A	A	-	D	A	-	A
Potassium hydroxide (caustic potash)	D	A1	A	A	A	A	A	A2	B	B1	A	-	B
Potassium iodide	B1	A1	-	A2	A2	B	A2	A	-	A1	A2	-	A
Potassium hypochlorite	D	B	-	-	A1	-	A2	A1	-	A1	A2	-	-
Potassium nitrate	B	B	A	A	A	A	A	A	B	A2	A	-	A
Potassium oxalate	B1	B1	-	-	-	-	A2	-	-	-	A2	-	-
Potassium permanganate	B1	B	A	A1	A	A	A	A	-	C	A	-	A
Potassium sulphate	C	A	B	A	A	A	A	A1	A	A2	A	-	A2
Potassium sulphide	D	B	-	A	A	-	A	A	-	A	A	-	A
Propane (liquid)	A	A	A	A	A	A	A	D	A	A	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.


CHEMICAL COMPATIBILITY TABLE

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYTREL	NBR	PTFE	SANTOPRENE	VITON
Propylene	A	A1	-	-	-	-	A2	D	-	D	A2	-	A1
Propylene glycol	B	B	B	A2	-	B	A	A	-	A	A	-	A
Copper cyanide	D	B	A	A	A	-	A	A	-	A	A	-	A
Copper chloride	-	D	A	A	A	-	A	A	A1	A	A	-	A
Copper fluoborate	-	D	B	-	-	-	-	-	-	B	-	-	A
Copper nitrate	D	A2	A	A	A	-	A	-	A	A	A	-	A
Copper sulphate > 5%	D	B	D	A	A	A	A	A	-	A	A	-	A
Copper sulphate 5%	D	B	D	A	A	A	A	A	A1	A	A	-	A
Beer residues	-	A	B	-	-	-	-	-	-	A	-	-	A
Furan resin	A	A	D	D	D	-	A	C	-	D	A	A	D
Resins	B1	A1	B	A2	-	A	A	-	-	A2	A	-	A
Resorcinol	-	-	-	A2	-	-	A2	B1	-	-	A2	D	A1
Rum	-	A	A	A	-	-	-	A	-	A	-	-	A
Brine (brackish water)	B1	A2	-	A	A	A	A2	A	-	A	A2	-	A2
Arsenic salts	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromium salts	-	-	-	-	-	-	-	-	-	-	-	-	-
Epsom salts (magnesium sulphate)	B1	B	B	A	A	-	A	A	-	A	A	-	A
Tin salts	D	D	-	A	A	-	A	B	-	A	A	-	A
Tomato sauce	A	A	B	A	A	A	A	A	-	A	A	-	A
Soy sauce	A	A	A	-	-	-	-	-	-	A	-	-	A
Salad sauce	B	A	A	A	-	-	-	-	-	A	-	-	A
Liquid soaps	C	A1	A	A	A1	A	A	A	A	A	A	A	A
Chocolate syrup	A	A	A	A2	-	-	A	A	-	A	A	-	A
Tallow	A	A	A	A2	-	A	A	A	-	A	A	-	A
Cider	B	A	A	A	-	-	-	A	B1	A	-	-	A
Buttermilk	A	A	A	A1	-	-	A	A1	-	A	A	-	A
Whey	B	A	A	-	-	-	A	-	-	A	A	-	A
Silicone	A	A	A	A	A	-	A	A	A	A	A	-	A
Soda (sodium carbonate)	D	A	A	A	A	A	A	A2	-	A1	A	-	A
Sodium acetate	B	B1	B	A	A	A	A	A	-	B	A	-	D
Sodium aluminate	-	A	B	-	-	-	A	A	-	A	A	-	A
Sodium benzoate	A1	-	-	A2	A2	A	A2	A	-	B	A2	-	A1
Sodium bicarbonate	D	A1	A	A	A	A	A	A2	-	A1	A	-	A
Sodium bisulphate	D	C	B	A	A	A	A	A2	D	B2	A	-	A
Sodium bisulphite	D	B1	C	A	A	A	A	A2	B	A2	A	-	A
Sodium bromide	D	C	A	-	A2	-	A2	A	-	-	A2	-	A1
Sodium carbonate	D	A	A1	A	A	A	A	A2	A	A	A	-	A
Sodium cyanide	D	B1	A	A	A	A	A	A2	A	A	A	-	A2
Sodium chlorate	C1	B1	A	A	A	A	A	A	-	B	A	-	A
Sodium chloride	C	B	A1	A	A	A	A	A	A	A	A	A	A
Sodium chromate	B	B	D	-	A	-	A	-	-	A	A	-	A
Sodium ferrocyanide	A	B	A	A	A	-	A	A	-	A	A	-	A
Sodium fluoride	B	D	-	A	A	A	A1	A	-	A1	A1	-	A
Sodium hydrogenosulphite	A	-	-	-	-	-	A	B	-	C	A	-	A
Sodium hydroxide (20%)	D	B2	A	A	A	A	A	B	B	A	A	-	C
Sodium hydroxide (50%)	D	B1	A	A	A	A	A	B1	D	A1	A	-	D
Sodium hydroxide (80%)	D	B1	D	A	A	A	A1	B1	-	D	A1	-	D
Sodium hypochlorite (<20%)	D	C	D	A	A	A	A	B	-	B	A	-	A1
Sodium hypochlorite (100%)	D	D	D	B	A	A	A	B1	A	D	A	-	A1
Sodium thiosulphate	D	A	-	-	-	-	A	-	-	-	A	-	-
Sodium metaphosphate	C	A	B	A1	A	A	A	A	-	A	A	-	A
Sodium metasilicate	D	A	D	A	-	-	A	A1	-	A	A	-	A
Sodium nitrate	B	B1	A	A	A	A	A	A	A	A1	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

A	B	C	D	-	1	2
EXCELLENT	GOOD	POOR, NOT RECOMMENDED	SERIOUS AGGRESSION, NOT RECOMMENDED	INFORMATION NOT AVAILABLE	SATISFACTORY UP TO 22°C	SATISFACTORY UP TO 48°C

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Sodium perborate	C	B	B	A	-	A	A	A	A	B	A	-	A
Sodium peroxide	C	A	D	B	A	A	A	A	A	B	A	-	A
Sodium polyphosphate	D	B	B	A	A	A	A	A	-	A	A	-	A
Sodium silicate	A	B	C	A	A	A	A	A	A	A	A	-	A
Sodium sulphate	A	B1	B	A	A	A	A	A	A	A	A	-	A
Sodium sulphite	C1	A	-	A2	A	A	A	A	-	A	A	-	A2
Sodium sulphide	D	D	B	A	A	A	A	A2	A	A	A	-	A2
Sodium tetraborate	C	B	-	A2	A	A	A	A	-	A1	A	-	A
Sodium tetraborate	C	A	B	-	-	A	A	A	-	A	A	-	A
Sodium thiosulphate	A	B	C1	A2	A	A	A	A2	-	B	A	-	A
Sulphate (solution)	D	B	D	A	A	A	A	A	-	A2	A	-	A1
Aluminium sulphate	B1	B2	B1	A	A	A	A	A	A	A	A	A	A
Ferrous sulphate	B1	B	D	A	A	-	A	A	-	A2	A	-	B
Alkaline solution: Ca(OH)2 Calcium hydroxide	C1	B	D	A2	A2	-	A	A	-	A	A	-	B1
Alkaline solution: KOH Potassium hydroxide	D	A1	A	A	A	-	A	A2	-	B1	A	-	B
Alkaline solution: NaOH Sodium hydroxide	D	B1	C	A	D	A	A	B1	-	A1	A	A	B1
Tanning solutions	A	A2	B	A1	-	-	A	B	-	B1	A	-	A
Photographic solutions	-	-	D	A2	B2	A	A2	A1	-	B	A2	-	B1
Solutions for plating, Acieration: ferrous sulphate bath 150°F	-	C	-	A	-	-	A	-	-	A	A	-	A
Solutions for plating, Acieration: ferrous chlorite bath 190°F	-	D	-	C	-	-	A	-	-	B	A	-	A
Solutions for plating, Acieration: fluoborate bath 145°F	-	D	-	A	-	-	A	-	-	B	A	-	A
Solutions for plating, Acieration: ferrous sulphate bath 150°F	-	C	-	A	-	-	A	-	-	A	A	-	A
Solutions for plating, Acieration: sulphate-chlorite bath 160°F	-	D	-	A	-	-	A	-	-	B	A	-	A
Solutions for plating, Acieration: sulphamate bath 140°F	-	D	-	A	-	-	A	-	-	A	A	-	A
Solutions for gold plating : neutral bath 75°F	-	C	-	A	-	A	A	-	-	A	A	-	A
Solutions for gold plating : Indium sulphamate	-	C	-	A	-	-	A	-	-	A	A	-	A
Solutions for gold plating : acid bath 75°F	-	C	-	A	-	A	A	-	-	A	A	-	A
Solutions for gold plating : cyanide bath 150°F	-	A	-	A	-	A	A	-	-	A	A	-	A
Solutions for plating, Chromium plating: black chromium bath 115°F	A	C	D	A	C	-	A	-	-	C	A	-	C
Solutions for plating, Chromium plating: fluoride bath 130 °F	A	D	D	A	C	-	A	-	-	D	A	-	C
Solutions for plating, Chromium plating: fluorosilicate bath 95°F	A	C	D	D	C	-	A	-	-	D	A	-	C
Solutions for plating, Non-electrolytic nickel plating 200°F	-	-	-	D	-	A	A	-	-	D	A	-	A
Solutions for plating, Nickel plating : Watts bath 115-160°F	-	C	-	A	-	A	A	-	-	A	A	-	A
Solutions for plating, Nickel plating : Chlorite 130-160°F	-	C	-	A	-	A	A	-	-	A	A	-	A

 This data is not the result of tests carried out by us, but should be regarded only as a guide to be used for determining the suitability of the various pump parts in contact with the fluid.

CHEMICAL COMPATIBILITY TABLE


TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYREL	NBR	PTFE	SANTOPRENE	VITON
Solutions for plating, Nickel plating : Fluoborate 100 - 170°F	-	C	-	A	-	A	A	-	-	B	A	-	A
Solutions for plating, Nickel plating : Sulphamate 100-140°F	-	C	-	A	-	A	A	-	-	A	A	-	A
Solutions for plating, Cyanide copper plating: bath 120°F	-	A	A	A	B	A	A	-	-	A	A	-	A
Solutions for plating, Cyanide copper plating: Rochelle salt bath 150°F	A	A	B	A	A	A	A	-	-	A	A	-	A
Solutions for plating, Cyanide copper plating: quick bath 180°F	A	A	B	A	A	A	A	-	-	A	A	-	A
Solutions for plating, Non-electrolytic copper plating	A	-	D	A	A	A	A	-	-	D	A	-	A
Solutions for plating, Copper plating: copper sulphate bath	A	D	A	A	A	A	A	-	-	A	A	-	A
Solutions for plating, Copper plating: Copper pyrophosphate	A	A	A	A	A	A	A	-	-	A	A	-	A
Solutions for plating, Galvanising: chloric acid 140°F	-	D	-	A	-	A	A	-	-	A	A	-	A
Solutions for plating, Galvanising: acid sulphate bath 150°F	-	C	-	A	-	A	A	-	-	A	A	-	A
Solutions for plating, Galvanising: fluoborate acid bath	-	C	-	A	-	A	A	-	-	B	A	-	A
Solutions for plating, Silver 80-120°F	-	A	-	A	-	A	A	A	-	A	A	-	A
Solutions for plating, Bronze Cu-Cd bath	A	A	A	A	A	-	A	A	-	A	A	-	A
Solutions for plating, Bronze Cu-Sn bath 160°F	A	A	B	A	A	-	A	A	-	A	A	-	A
Solutions for plating, Bronze Cu-Zn bath 100°F	A	A	A	A	A	-	A	-	-	A	A	-	A
Solutions for plating, 90°F	A	A	A	A	A	A	A	-	-	A	A	-	A
Solutions for plating, Cadmium fluoborate bath 100°F	A	A	C	A	A	A	A	-	-	B	A	-	A
Solutions for plating, Antimony bath 130°F	A	A	A	A	A	-	A	-	-	A	A	-	A
Solutions for plating, Arsenic bath 110°F	A	A	A	A	A	-	A	-	-	A	A	-	A
Solutions for plating, Brass bath 100°F (normal bath)	A	A	A	A	B	A	A	-	-	A	A	-	A
Solutions for plating, Brass bath 110°F (quick bath)	A	A	A	A	B	A	A	-	-	A	A	-	A
Solutions for plating, Chromium bath: barrel plating 95°F	A	D	C	A	A	A	A	-	-	B	A	-	A
Solutions for plating, Chromium plating: chromium-sulphuric bath 130°F	A	C	D	A	C	-	A	-	-	D	A	-	C
Solutions for plating, Chromium plating: barrel plating 95°F	A	D	D	A	C	-	A	-	-	D	A	-	C
Solutions for plating, Rhodium 120°F	-	D	-	A	-	-	A	A	-	A	A	-	A
Solutions for plating, Tin-fluoborate 100°F	-	C	-	A	-	A	A	-	-	B	A	-	A
Solutions for plating, Tin-lead 100°F	-	C	-	A	-	A	A	-	-	B	A	-	A
Whitening solutions	-	-	-	A1	-	-	A	A	-	D	A	-	A



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A	B	C	D	-	1	2
EXCELLENT	GOOD	POOR, NOT RECOMMENDED	SERIOUS AGGRESSION, NOT RECOMMENDED	INFORMATION NOT AVAILABLE	SATISFACTORY UP TO 22°C	SATISFACTORY UP TO 48°C

TYPE OF FLUID	PARTS IN CONTACT WITH FLUID							MATERIALS FOR DIAPHRAGM					
	ALUMINIUM	AISI 316 STAINLESS STEEL	ACETAL	POLYPROPYLENE	PVDF	POLYETHYLENE	PTFE	EPDM	HYTREL	NBR	PTFE	SANTOPRENE	VITON
Acetate solvent	A	A	-	B1	A	-	A	A	-	C	A	-	D
Stoddard solvent	A	A	A	C	A	-	A	D	A	A	A	D	A
Solvents for paints	A	A	D	D	-	-	A	D	-	D	A	D	D
Sorghum	-	A	A	-	-	-	-	-	-	A	-	-	A
Styrene	A	A	A	-	-	-	A	D	D	D	A	-	B
Cane juice	B	A	A	C1	A1	-	A	A	-	A	A	-	A
Fruit juice	A	A	D	B	A	-	A	-	-	A	A	-	A
Vegetable juice	D	A	A	-	-	-	A	A	-	A2	A	-	A
Photographic developers	-	A	D	A	-	-	A	B	-	A	A	-	A
Tetrachloroethane	C	A	A	C	A	-	A	D	D	D	A	D	A
Tetrachloroethylene	-	A	A	D	-	B	A	D	D	D	A	-	A
Tetrahydrofuran	-	A	A	C2	B1	B	A	D	B	D	A	D	D
Toluene	A	A	C1	C1	A1	C1	A	D	B	D	A	D	C
Transparent (varnish)	A	A	A	A	-	A	A	D	-	B	A	-	A
Turpentine	A	A	A2	D	A	D	A	D	B	-	A	D	A
Trichloroethane	D	B	A	C	A	-	A	D	D	D	A	D	A
Trichloroethylene	D	B	D	C1	B	C1	A	D	D	D	A	D	A
Trichloropropane	D	A	A	-	-	-	A1	-	-	D	A1	-	A
Tricresyl phosphate	D	B	C	A1	D	-	A	A	-	D	A	-	A2
Triethylamine	-	A	D	D	A2	-	A	A	-	C	A	-	D
Trisodium phosphate	D	B	A	A	A	A	A	A	A	A	A	-	A
Urea	B	B	A	A	A	A	A	A	A	B	A	-	A
Urine	B	A	A	A	A	A	A1	A1	-	A1	A1	-	A1
Vaseline	-	A	B	D	A	-	C	A	-	A	C	-	A
Whisky and Wine	C1	A	A	A	A	A	A	A	-	A	A	-	A
Xylene	A1	B	A	B	A	C1	A	D	B	D	A	D	B
Zinc chloride	D	B	C	A	A	A	A	A	A	A	A	A	A
Zinc hydrosulphite	D	A	C	-	-	-	A	A	-	A	A	-	-
Zinc sulphite	D	A	C	A	A	A	A	A	-	A	A	-	A
Sulphur dioxide	B	A1	B	A1	A	A	A	A2	D	D	A	-	A
Sulphur dioxide (dry)	B	A	B	A1	A	A	A	A2	-	D	A	-	A
Sulphur chloride	D	D	D	C1	A1	C	A	D	D	D	A	-	A
Sulphur hexafluoride	-	-	-	-	-	-	-	B	-	B	-	-	-
Sulphur trioxide	A	C	-	C	-	-	A	C2	-	D	A	-	A
Sulphur trioxide (dry)	A	A	D	D	C1	-	A	C1	-	D	A	-	A
Sugar (liquid)	A	A	A	A	-	-	A	A	-	A	A	-	A
Beet sugar	A	A	B	A1	A	-	A1	A	A	A	A1	-	A

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CONVERSION TABLES

► CENTIGRADE / FAHRENHEIT

DEGREES		DEGREES	
°C	°F	°C	°F
0	32	56	132.8
2	35.6	58	136.4
4	39.2	60	140.0
6	42.8	62	143.6
8	46.8	64	147.2
10	50.0	66	150.8
12	53.6	68	154.4
14	57.2	70	158.0
16	60.8	72	161.6
18	64.4	74	165.2
20	68.0	76	168.8
22	71.6	78	172.4
24	75.2	80	176.0
26	78.8	82	179.6
28	82.4	84	183.2
30	86.0	86	186.8
32	89.6	88	190.4
34	93.2	90	194.0
36	96.8	92	197.6
38	100.4	94	201.2
40	104.0	96	204.8
42	107.6	98	208.4
44	111.2	100	212.0
46	114.8	102.2	216.0
48	118.4	104.4	220.0
50	122.0	107.8	226.0
52	125.6	110.0	230.0
54	129.2	115.6	240.0

► VISCOSITY

POISE	CENTIPOISE	SSU
00.00	1	32
.1	10	60
.2	20	100
.4	40	210
.8	80	430
1.0	100	530
1.4	140	690
2.0	200	1000
2.6	260	1280
3.0	300	1475
3.6	360	1730
4.0	400	1950
4.6	460	2270
5.0	500	2480
6.0	600	2900
8.0	800	3880
10.0	1000	4600
12.0	1200	5620
14.0	1400	6480
16.0	1600	7500
18.0	1800	8500
22.0	2200	10300
26.0	2600	12100
30.0	3000	14500
35.0	3500	16500
40.0	4000	18500
45.0	4500	21000
50.0	5000	23500
55.0	5500	26000
60.0	6000	28000

► PARTICLE SIZE

MESH (U.S.)	MICRONS	INCHES	mm
3	6730	.265	6.73
3.5	5660	.223	5.66
4	4760	.187	4.76
5	4000	.157	4.00
6	3360	.132	3.36
7	2830	.111	2.83
8	2380	.0937	2.38
10	2000	.0787	2.00
12	1680	.0661	1.68
14	1410	.0555	1.41
16	1190	.0469	1.19
18	1000	.0394	1.00
20	841	.0331	.84
25	707	.0280	.71
30	595	.0232	.59
35	500	.0197	.50
40	420	.0165	.42
45	354	.0138	.35
50	297	.0117	.297
60	250	.0098	.250
70	210	.0083	.210
80	177	.0070	.177
100	149	.0059	.149
120	125	.0049	.125
140	105	.0041	.105
170	88	.0035	.088
200	74	.0029	.074
230	63	.0024	.063
270	53	.0021	.053
325	44	.0017	.044
400	37	.0015	.037

► DELIVERY

lbs H ₂ O/h x 0,002	= gal/min
gal/min x 500	= lbs/H ₂ O/h
lbs liquid/h	
	x 0,002 = gal/min
Specific weight	
l/min x 0,264	= gal/min
gal/min (GPM) x 3,785	= l/min
m ³ /h x 4.4	= gal/min
gal/min x 227	= m ³ /h
Kg H ₂ O/min x 0,264	= gal/min
gal/min x 3,8	= Kg H ₂ O/min

► VOLUME

ft ³ x 0,0283	= m ³
lbs H ₂ O x 0,119	= gal
gal (Brit) x 1,2	= gal (US)
gal x 128	= oz (liquid)
ft ³ x 7,48	= gal
in ³ x 0,00433	= gal
gal x 3,785	= l
l x 0,264	= gal
m ³ x 264,2	= gal
m ³ x 1000	= l
l x 1000	= cm ³
cm ³ x 0,338	= oz (liquid)
oz (liquid) x 29,57	= cm ³

► PRESSURE

ft C.A. x 0,433	= psi
psi x 2,31	= ft C.A.
in Hg x 0,491	= psi
in Hg x 1,133	= ft C.A.
atm x 14,7	= psi
atm x 33,9	= ft C.A.
Kg/cm ² x 14,22	= psi
m C.A. x 1,42	= psi
atm x 760	= mm Hg
mm Hg x 0,039	= in Hg
bar x 14,5	= psi
N/m ² x 1	= Pa
psi x 6,9	= Kpa
Kpa x 0,145	= psi

TESTS CARRIED OUT ON THE PUMPS (Our test room)

LIQUIDI
Water
Depleted oil (up to 120°C)
Gas oil
Antifreeze liquid
Window washing liquid
Brake fluid
Normal oil (SAE 120 oil)
Vinyl glue
Printing roller cleaning solvents
Rim washing liquid

MEMBRANE
NBR-Hytrel
NBR-Hytrel
NBR-Hytrel
NBR-Hytrel
NBR-Hytrel
NBR-Hytrel
EPDM-SANTOPRENE
NBR-Hytrel
NBR-Hytrel
Teflon
NBR

CORPO
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium
Aluminium





Specific tests

- The pumps have undergone duration tests **(24 hours a day)** recreating **extreme working conditions: operation at maximum load for long periods, operation under effort with constricted outlet** (to simulate high head in delivery).
- The tests, carried out in our test room, **on several types of diaphragms**, reached **20 - 30 million cycles** (for several pump models).

In the maximum delivery tests (with water at 20°C) carried out by us, the pump was always placed at a higher level than the liquid (suction lift) and not immersed (suction head).

The test bench for overall testing has multiple controls for checking and analysis of the test values:

- 1** Pump outlet pressure check
- 2** Motor valve regularity check
- 3** Fluid delivery, supply air consumption (l/min.) Check.
- 4** Cycles per minute check
- 5** Noise level check
- 6** Pump check with operation in critical conditions (simulation of stall conditions)
- 7** Anti-ice device check
- 8** Temperature check

FINAL TEST AND INSPECTION OF ALL PUMPS BEFORE PACKING ARE FORESEEN IN ANY CASE, TO GUARANTEE THE QUALITY OF OUR PUMPS.