



FG PUMPS

METERING PUMPS FOR
CHEMICAL

TECHNICAL DATA

TYPE: FGM22B1



MOTOR DRIVEN MECHANICAL DIAPHRAGM

PUMPS FOR CHEMICALS

PUMP-HEAD MATERIAL EXECUTIONS

STANDARD PUMP-HEAD MATERIALS

EXECUTION CODE	HEAD MATERIAL	VALVE MATERIAL	CAGE MATERIAL	SEAT VALVE MATERIAL	HOUSING MATERIAL	DIAPHRAGM MATERIAL	GVA/GVM* O-RINGS MATERIAL
B	PP **	PYREX	PP	PVC	PP **	PTFE	FPM
F	PVDF	PTFE	PVDF	PVDF	PVDF	PTFE	PTFE
A	S.S.316L	S.S.316L	PP	S.S.316L	S.S.316L	PTFE	FPM
B1	PP **	CERAMIC	PP	PVC	PP **	PTFE	FPM
B33	PP **	S.S.316L	PP	S.S.316L	PP **	PTFE	FPM
B2	PP **	PTFE	PP	PVC	PP **	PTFE	FPM
B7	PP **	S.S.316L	PP	S.S.316L	PP **	PTFE	SILICON
F5	PVDF	HASTELLOY C-276	PVDF	PVDF	PVDF	PTFE	PTFE
F1	PVDF	CERAMIC	PVDF	PVDF	PVDF	PTFE	PTFE
A331	S.S.316L	S.S.316L	PP	S.S.316L	S.S.316L	PTFE	PTFE
A3323	S.S.316L	S.S.316L	S.S.316L	S.S.316L	S.S.316L	PTFE	FPM
A7	S.S.316L	S.S.316L	PP	S.S.316L	S.S.316L	PTFE	SILICON

* GVA= Suction Valve Group
GVM= Discharge Valve



** Reinforced polypropylene

PP, PVDF and S.S.316L are the standard wet parts materials:

Green color follows Polypropylene
Pink color follows PVDF
Blue color follows S.S.316L

GVA/GVM EPDM o-rings available on request

Other special executions available in stock
Please ask to us for more info or check the price list

Other pump-head materials available on request (PTFE, Titanium, PVC as example)

FGM MATERIAL COMPATIBILITY TABLE

COMMON CHEMICALS	WET PARTS EXECUTIONS				
	B	B33	B2	F	A
Acetic Acid	C	C	C	B	A
Activated Charcoal	C	B	C	C	A
Alcohol	B	B	B	B	A
Aluminum Chloride	B	C	A	A*	D
Alumin. Polych. (PAC) !	B	B	A	A*	D
Aluminum Sulphate	B	B	B	A*	B
Ammonia	A	B	B	B	A
Anionic Polymer !	C	B	C	C	A
Antiscalant	C	B	C	C	A
Biocide !	B	C	A	B	D
Calcium Hypochlorite	B	D	A	A*	D
Cationic Polymer !	B	A	A	C	A
Chlorine !	A	D	A	B*	D
Citric Acid	B	B	B	B	A
Coagulant	A	C	A	B	D
Copper Sulphate	B	C	B	A*	D
Detergent	A	B	B	C	A
Ferric Chloride !	A	D	A	A*	D
Ferric sulphate ≤ 10%	B	B	A	A*	D
Ferrous Sulphate	B	A	A	A*	D
Flocculant !	B	B	A	C	A
Fluoride	C	D	A	C	D
Hydrochloric Acid !	A	D	A*	A*	D
Hydrogen Peroxide	C	B	C	C	A
Lime	C	B	C	A*	A
Paint !	A	A	B	B	A
Polyelectrolyte !	C	B	C	C	A
Polymer !	A	B	C	C	A
Sodium Aluminum 52%	B	C	A	B	D
Sodium Chlorite	D	D	A	A*	D
Sodium Hydroxide	B	A	A	A*	A
Sodium Hypochlorite	B	D	A	A*	D

	B	B33	B2	F	A
Sodium Sulphite	B	C	A	A	D
Solvent	B	C	A	B	A
Sulfuric Acid 96-98% !	B	C	A	A*	C
Sulfuric Acid diluted	B	D	B	B	D
Sulfuric Dioxide	B	C	A	B	D
Trisodium Phosphate	B	C	C	C	A
Trisodium Sulfate	D	C	C	A*	D

KEY LINE			
A*	Excellent	C	Not Suggested
A	Very Good	D	Damages
B	Good	!	Low Strokes at Minute (34-71)

B1 execution is suggested as alternative at B/B2 execution for high concentration liquids

F1 execution is suggested as alternative at F execution for high concentration liquids

F5 execution is suggested as alternative at F execution in Sulfuric Acid 96-98% dosing

A3323 executions is suggested for very viscous products

A331 executions is suggested as alternative at A executions in Acetic Acid and Hydrogen Peroxide dosing, and for food industry.

B7/A7 executions are suggested for food application

This material compatibility table has been created according to our experience in the years. The use indication may consider, over to the chemical compatibility of the used material with the product to be dosed, also the number of strokes per minute suggested for a given product. The key line refers to the materials used by FG PUMPS in its wet parts. Therefore suitable materials can be found for products which in some cases would not be. (our PP for example). This table should however be considered as a suggestion on the choice of the correct material / pump. FG Pumps not assumes never responsibility in the event of damage to persons and / or things, and / or situations created by the use of this table.

TECHNICAL DATA and DIMENSIONS

80 mm DIAPHRAGM PUMP

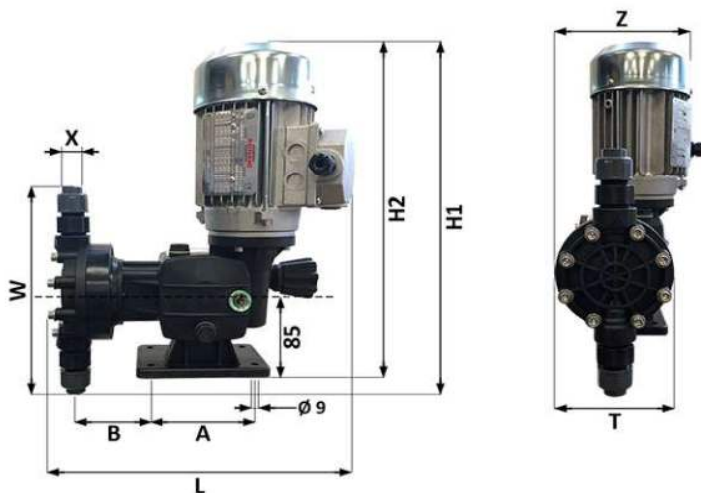
TECHNOPOLYMER PUMP BODY

TYPE	FLOWRATE AT 2 BAR (l/h)		FLOWRATE AT MAX PRESSURE (l/h)		STROKE LENGTH mm	STROKES / min		MAX WORKING PRESSURE bar (psi)	STANDARD MOTOR kw	Ø VALVES
	50 hZ	60 hZ	50 hZ	60 hZ		50 Hz	60 Hz			
FGM4	5	6	4	4.8	2	34	41	14 (203)*	0.18	5
FGM9	11	13.4	9	10.8	2	71	85	14 (203)*	0.18	5
FGM14.5	18	21.8	14.5	17.4	2	106	127	14 (203)*	0.18	5
FGM19	23	27.6	19	22.8	2	126	152	10 (145)**	0.18	5
FGM22	26	--	22	--	2	150	--	10 (145)**	0.18	5
FGM7	9	10.8	7	8.4	3	34	41	14 (203)*	0.18	5
FGM18	20	24	18	21.6	3	71	85	14 (203)*	0.18	5
FGM26	31	37.2	26	31.2	3	106	127	14 (203)*	0.18	5
FGM34	39	46.8	34	40.8	3	126	152	10 (145)**	0.18	5
FGM39	45	--	39	--	3	150	--	10 (145)**	0.18	5
FGM11	13.5	16.2	11	13.2	4	34	41	14 (203)*	0.18	5
FGM27	30	36	27	32.4	4	71	85	14 (203)*	0.18	5
FGM41	46	55.2	41	49.2	4	106	127	14 (203)*	0.18	5
FGM49	54.5	65.4	49	58.8	4	126	152	10 (145)**	0.18	5
FGM54	62	--	54	--	4	150	--	10 (145)**	0.18	5

Max reachable pressure 16 bar

* With 0.37 Kw motor power, up to 16 bar (232 psi) pressure.

** With 0.37 Kw motor power, up to 12 bar (174 psi) pressure.



All measurements in mm

	T	Z	H1	H2	A	B	L	W
PP	112	149	373	340	110	83	300	240
PVDF	112	149	353	340	110	83	300	200
S.S. 316L	112	149	345	340	110	83	300	300
X - Connections		Gas	Npt					
PP pump-head		1/4"F	3/8"F					
Pvdf pump-head		1/4"F	3/8"F					
S.s. 316L pump-head		1/4"F	3/8"F					

STANDARD ELECTRICAL DATA - 3ph

Power Consumption	Kw	0.18 - 0.37
Voltage	V	230/400V 50 Hz - 460V 60 Hz
Frequency	Hz	50 - 60
Insulation class	ISO	F
Enclosure	IP	55

WETTED PARTS STANDARD EXECUTIONS

CONFIGURATION	BI
CONFIGURATION	F
CONFIGURATION	A

ACCESSORIES AVAILABLE FOR 80 mm DIAPH. PUMP

Safety valves, Safety valves on the pumphead, backpressure valves, relief valves, foot valves with filter, injection valve.
For other informations, see the *Accessories's* page

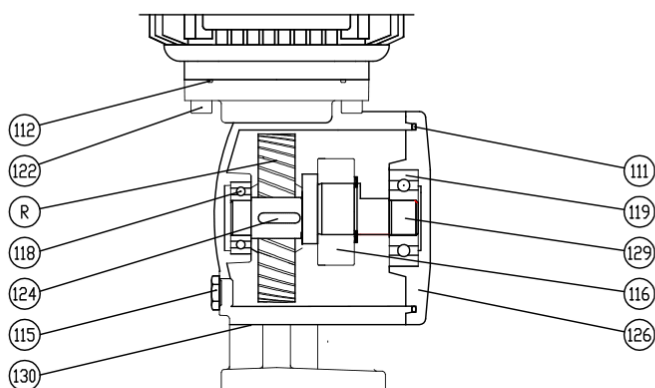
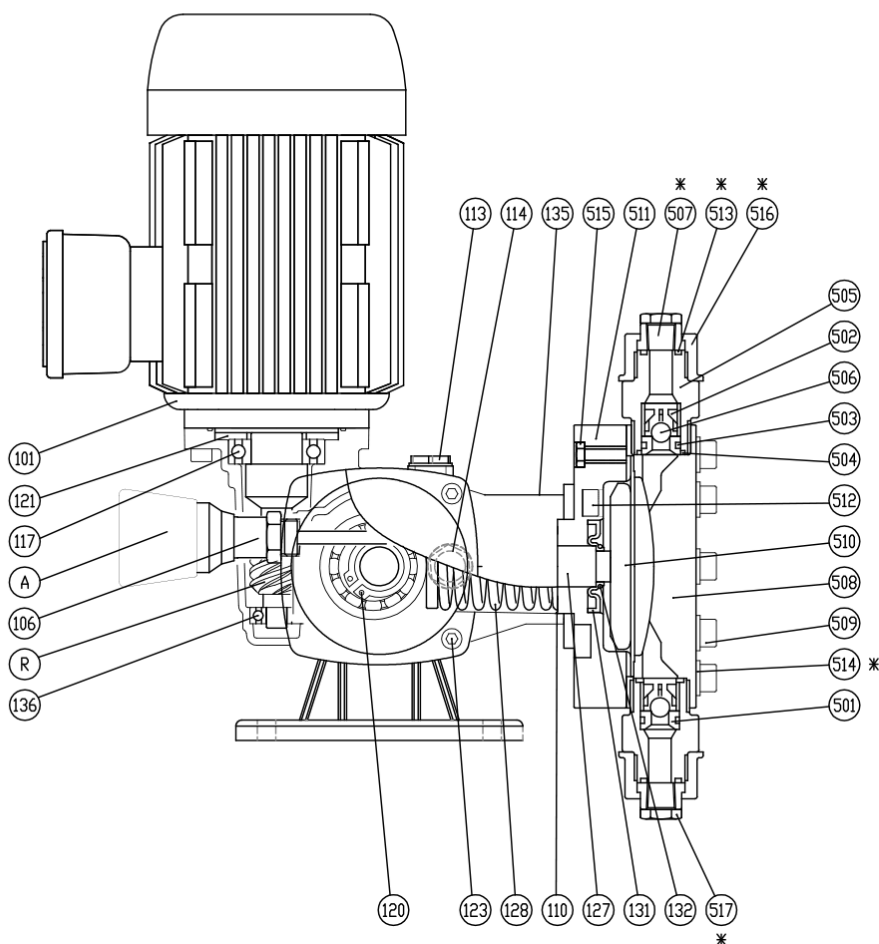
The motors installed on the pumps will be painted in black.
In the pictures the aluminium color is only illustrative.



FG PUMPS
METERING PUMPS FOR
CHEMICALS

FGM SERIES SECTION DRAWING

DOC.	REV
DATE	DRAWN BY



*= AVAILABLE IN PLASTIC VERSIONS ONLY

LIQUID END

COD.	DESCR.
501	VALVE SEAT
502	VALVE CAGE
503	SEAT O-RING
504	HOUSING O-RING
505	VALVE HOUSING
506	VALVE
507	SLIP ON NECK
508	HEAD
509	HEAD SCREW
510	DIAPHRAGM
511	DIAPHRAGM CHAMBER
512	DIAPHRAGM CHAMBER SCREW
513	SLIP ON NECK O-RING
514	HEAD SCREW WASHER
515	HEAD LOCKING NUT
516	GLAND NUT
517	THREADED CONNECTION PLUG

GROUPED

COD.	DESCR.
A	ADJUSTMENT GROUP
R	REDUCTION GROUP

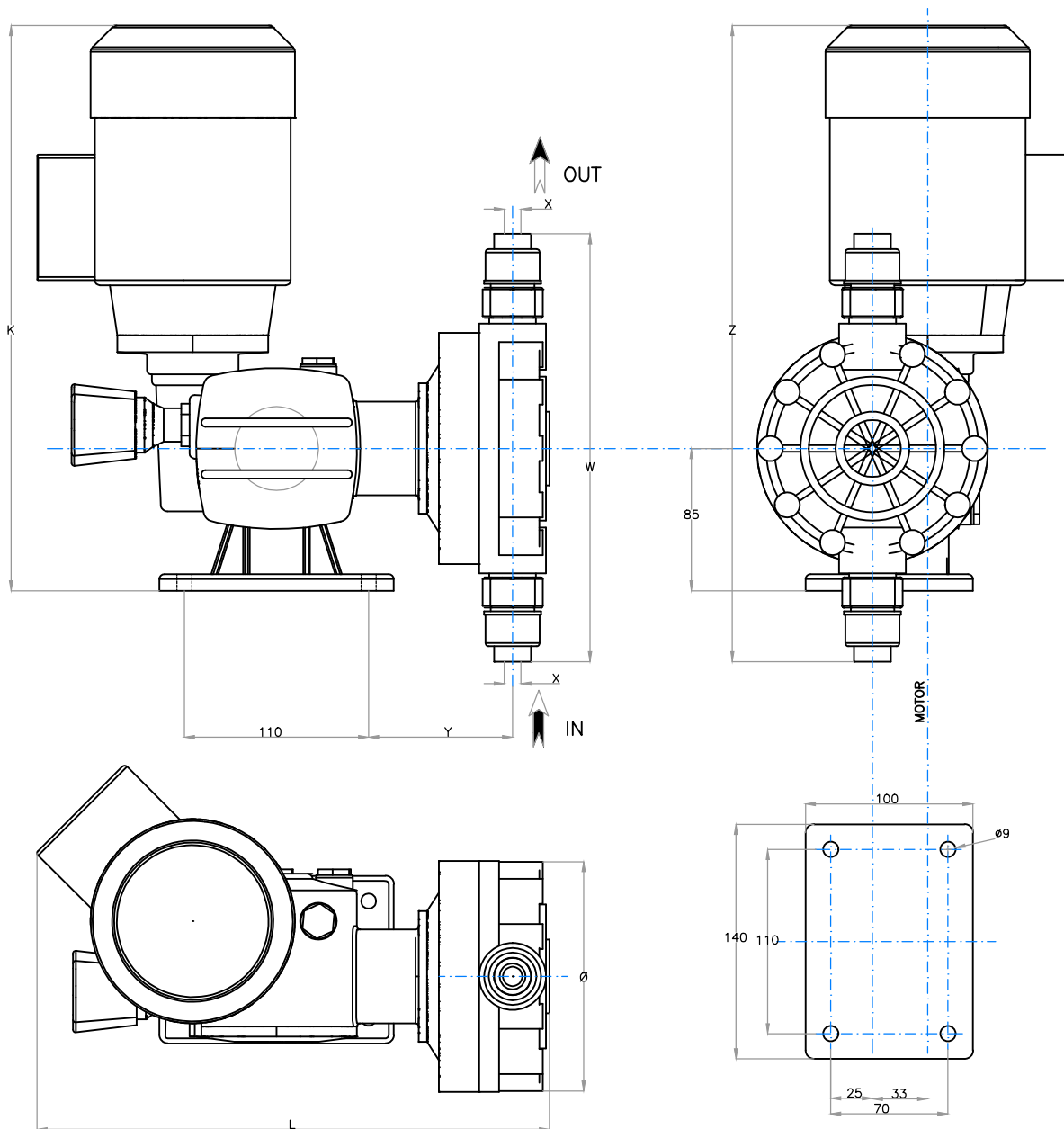
MECHANISM

COD.	DESCR.
101	MOTOR
110	DIAPHRAGM CHAMBER O-RING
111	PUMP BODY O-RING
112	GEARBOX O-RING (OPTIONAL)
113	OIL INLET PLUG
114	OIL LEVEL PLUG
115	OIL DRAIN PLUG
116	ECCENTRIC SHAFT BALL BEARING
117	MOTOR BALL BEARING
118	GEARBOX BALL BEARING
119	BODY PUMP BALL BEARING
120	ECCENTRIC BALL BEARING CIRCLIP
121	SPACER
122	MOTOR SCREW
123	PUMP BODY SCREW
124	WORM GEAR KEY
126	SIDE SHELL
127	PUSHING ROD
128	SPRING
129	ECCENTRIC SHAFT
130	PUMP BODY
131	PUSHING ROD SEAL
132	PUSHING ROD SEAL O-RING
135	PUMP STICKER
136	ENDLESS SCREW SHAFT BALL BEARING

FGM DIAPHRAGM METERING PUMP

MODELS WITH
TECHNOPOLYMER
PUMP BODY

OVERALL DRAWING



ALL DIMENSIONS IN MILLIMETERS

STANDARD MOTORS	-3PH,0.18KW,230-400V,GR.63,B14,PG11 -3PH,0.37KW,230-400V,GR.71,B14,PG13.5 -1PH,0.37KW,230V,GR.71,B14,PG13.5	WEIGHTS	* D.S.* Ø80= A:12Kg B/F=10Kg		MATERIAL CODE	A= S.S.316L B= POLYPROPYLENE F= PVDF						
			D.S.* Ø110= A:13Kg B/F=11Kg									
			* DIAPHRAGM SIZE									
MOTOR DRIVEN MECHANICAL METERING PUMP FGM SERIES		Ø	Z		W		L		Y	X	K	
			A	B/F	A ^{SV}	B/F ^{SV}						
					185 ^{SV}	240 ^{SV}	0.18KW	0.37KW		Bsp F	0.18KW	0.37KW
MODELS WITH Ø80mm. DIAPHRAGM SIZE		112	345	373	235 ^{DV}	290 ^{DV}	300	305	83	1/4"	340	365
MODELS WITH Ø110mm. DIAPHRAGM SIZE		140	359	386	205 ^{SV}	260 ^{SV}	310	315	85	3/8"	340	365
					255 ^{DV}	310 ^{DV}						



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CHEMICALS



FG PUMPS

Via B. Buozzi 23/27

20054

Segrate (MI)

ITALY

FG PUMPS is a FUGI S.r.l. brand



MADE IN ITALY

www.fgpumps.com

info@fgpumps.com