

D
series
DIRECT
DIAPHRAGM
DOSING PUMPS

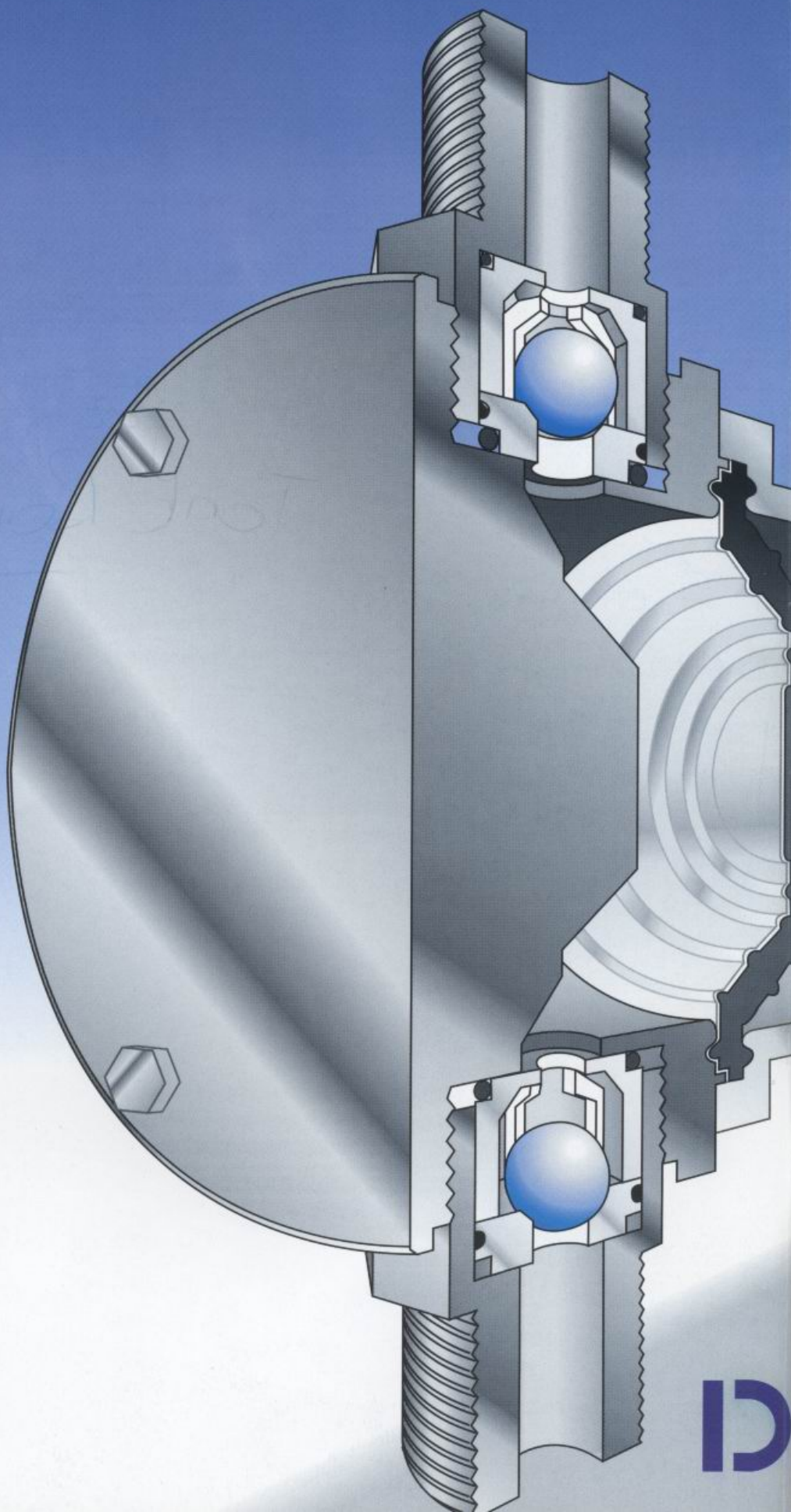
DOSSEURO®



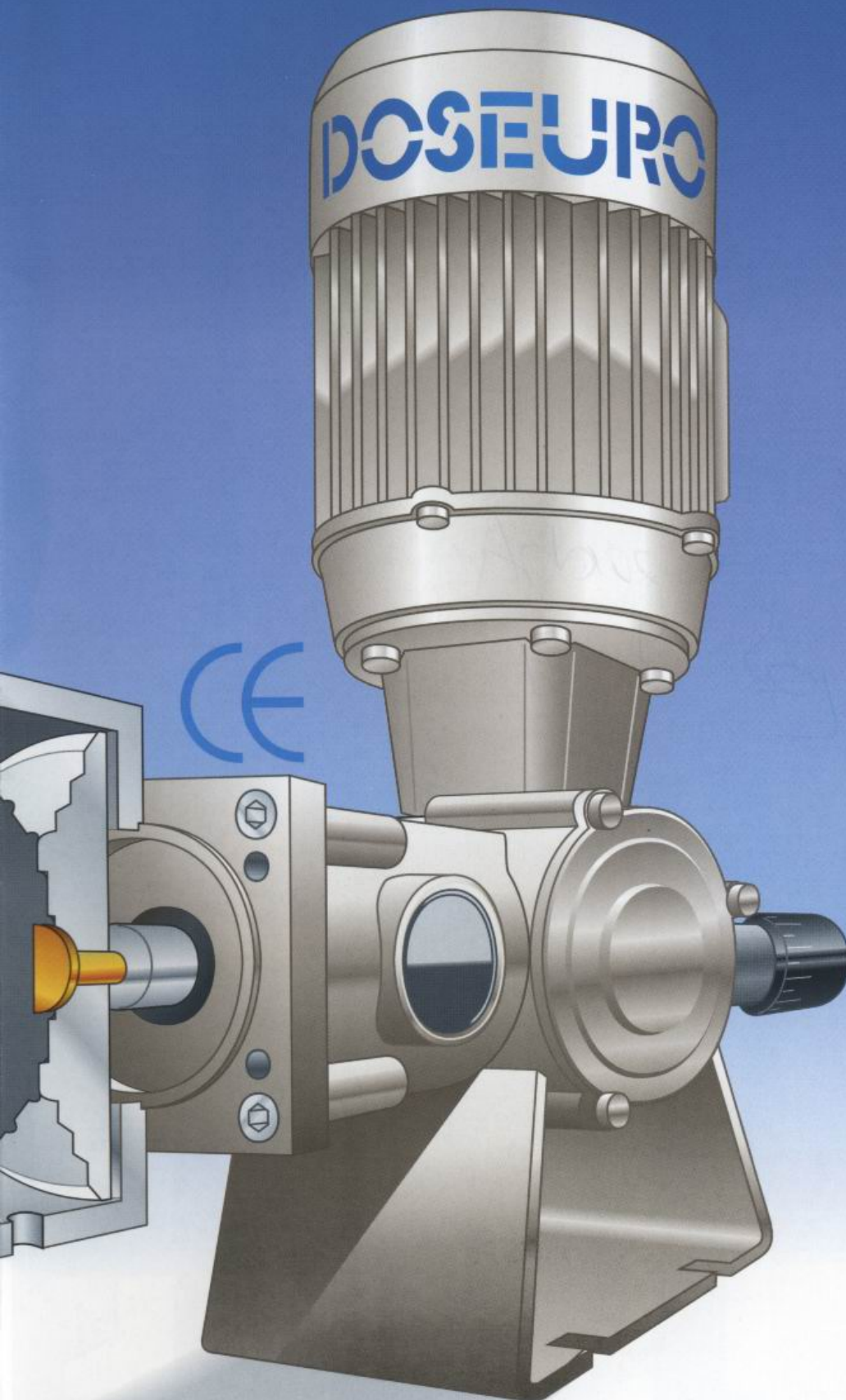
D

Direct diaphragm type

"D" Series Mechanical diaphragm metering pumps, have been specifically designed to ensure accuracy and are engineered for continuous metering applications through a wide range of capacities. The design ensures a high degree of accuracy and reproducibility commensurate with the requirements of the water treatment and petrolchemical engineer. The pumps are built accordingly with the CE norms as stated in the EU Machine Guideline.



D



TECHNICAL CHARACTERISTICS

Every pumps are fitted as standard with gearbox reduction system and with vertically mounted B14 shaped electric motor in accordance to the UNEL-MEC specifications. The motor's power range is from 0.18 Kw upto 0.25 Kw at european standard 3 phase voltages of 230/400V @ 50Hz, 4 pole and 110/380V @ 60Hz, 4 pole. Being the motors conform to the UNEL-MEC specifications, they are available to many alternative options, including different voltages and frequencies, insulation standards and special explosion proof versions.

■ The gearbox provides for a wormwheel reduction system with all bearings fully supported within the fully lubricated gearbox.

■ The manually adjustable output with spring return is operated by an eccentric, which provides for the diaphragm delivery stroke (outlet), while the suction stroke (inlet) is spring assisted.

■ The flowrate adjustment is possible whether is in operation or not. The movement of the piston is based on a precise reciprocating gearbox which provides for exact volumetric displacement. The metering rate is fully manually adjustable. Automatic adjustment is available by means of servo control units, with 4-20mA output signal, or by means of pneumatic control, enabling control from 3-15 PSI signal air.

METERING PUMPHEAD

The pumphead is connected to the gearbox by means a spacer assembly.

■ The pumphead is direct control diaphragm type.

■ A simple building configuration and a small number of components allow an easy checking and maintenance.

DOSEURO®



Examples composition

"D" series Mechanical Diaphragm pumps are available in three different sizes:

- D 50 N stroke length 5 mm
- D 100 N stroke length 10 mm
- D 101 N stroke length 10 mm

For these three types different diaphragm sizes are available to suit each client's applications for capacity and pressure.

Mechanical diaphragm metering pumps are suitable for use when:

The dosed liquid contains small amounts of suspended solids.

The dosed liquid contain a toxic solution.

A drip proof/air tight application is required.

High pressure metering is not required

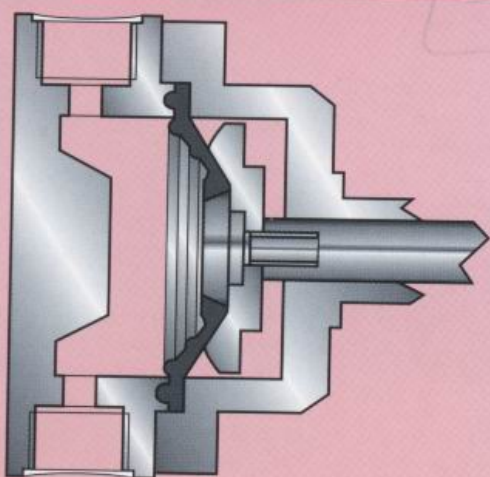
Standard materials of pumphead construction:

AISI 316 Stainless steel and PVC.

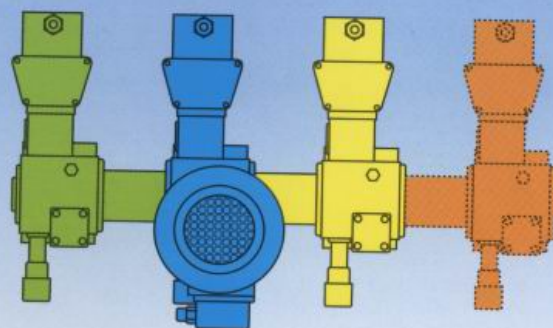
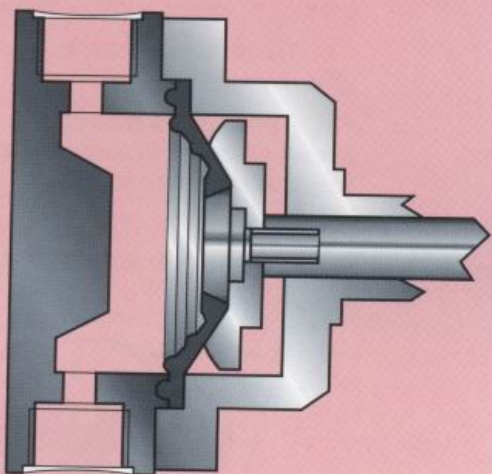
Available in many different materials of construction to suit the chemicals in use.

Jacketed pumpheads for either cooling or heating are available to suit requirements.

Execution 11

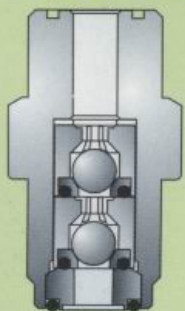
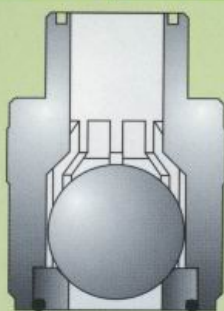
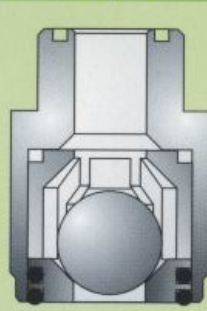
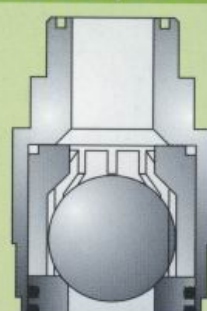


Execution 13



MULTIPLE HEADED PUMPS

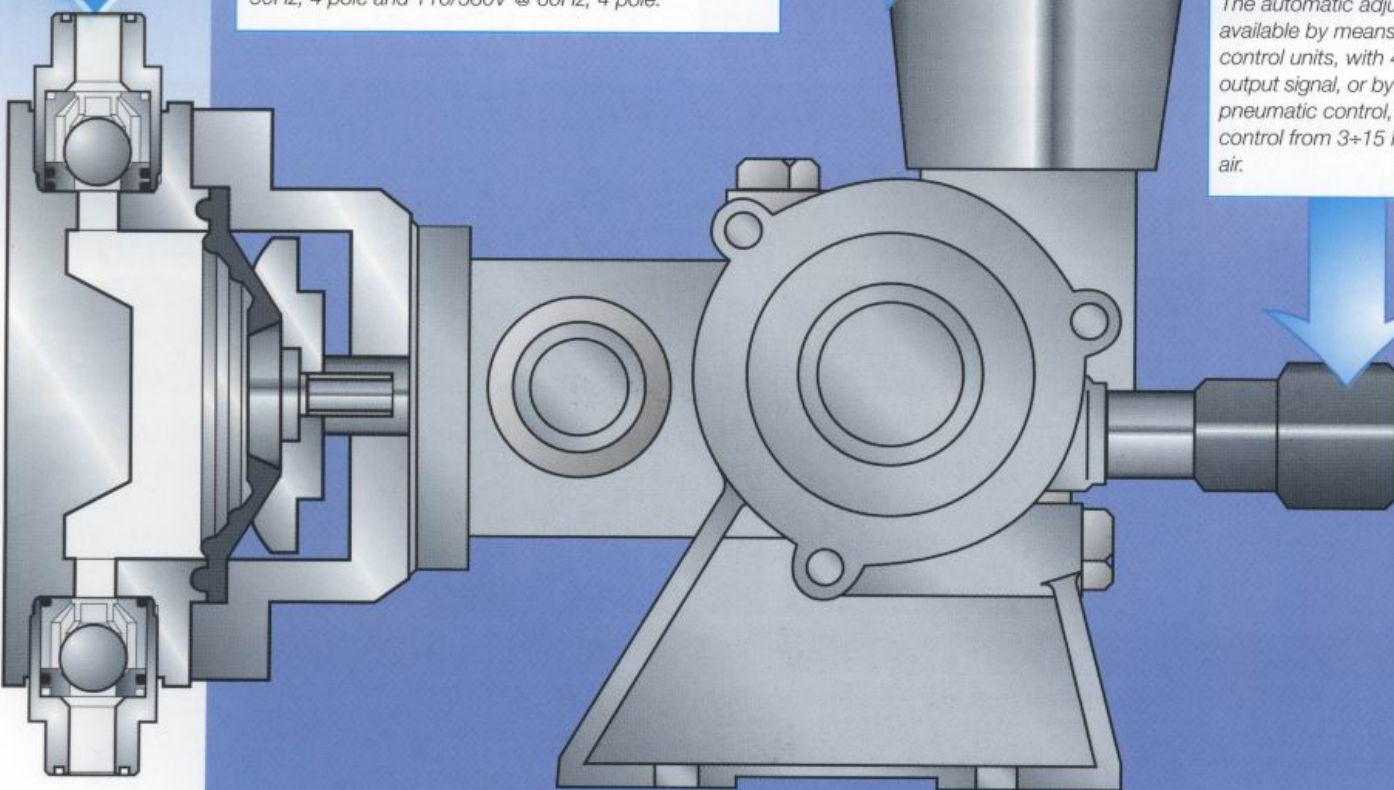
Different multiple heads units are available on request. Each pumping element is independently adjustable both in operation or not.

AB 5/14 N DV**AB 17/14 N****AB 13/21 N****AB 17/21 N**

Gearbox

Every pumps are fitted as standard with gearbox reduction system and with vertically mounted B14 shaped electric motor in accordance to the UNEL-MEC specifications. The motor's power range is from 0.18 Kw up to 0.55 Kw at european standard 3 phase voltages of 230/400V @ 50Hz, 4 pole and 110/380V @ 60Hz, 4 pole.

The automatic adjustment is available by means of servo control units, with 4÷20mA output signal, or by means of pneumatic control, enabling control from 3÷15 PSI signal air.



D

Mechanical
diaphragm type

Mechanical diaphragm pumps: executions

EXECUT.	PARTS			
	PUMP HEAD	VALVE (ball)	VALVE SEATS	DIAPHRAGM
11	AISI 316	AISI 316	AISI 316	PTFE/NBR
12	PP	PYREX	PVC	PTFE/NBR
13	PVC	PYREX	PVC	PTFE/NBR
17	PP	AISI 316	PP	PTFE/NBR

PP = Polypropylene

AISI 316 = Stainless steel 316

Glossary and numbering-system to identify pumps type

D	100N	70	/	B	11	DV
1st group	2nd group	3rd group		4th group	5th group	6th group
"D" series mechanical diaphragm dosing pump	stroke length	diaphragm diameter in mm		reduction ratio group (nr. of piston strokes/min): F (1/24) B (1/12)	materials in touch with the fluid	not standard - special code

in case of pumps supplied without motor add: WO/M

D050N



Pump type		Reducer ratio (*1) Strokes number /1		Capacity (*2) L/1' L/h				Max Press. Kg/cm2			Connections (*4)		Motor	ø mm Diaph.	Stroke mm	Net Weights (*5) Kg	
		(*1)	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	SS 316	PP+PV	PVC	SS 316	PVC		Length	SS 316	PVC
D-050N- 30	I	35	42	0,066	0,080	4	4,8		14	-	10	1/2" G.m.	Kw 0.18 3 Ph ~1400 rpm or Kw 0.18 1 Ph ~1400 rpm	30	5	11	8
	F	58	70	0,116	0,140	7	8,4										
	C	96	116	0,191	0,230	11,5	13,8										
	B	116		0,233		14											
D-050N- 50	I	35	42	0,233	0,280	14	16,8		10			1/2" G.m.		50		12	8
	F	58	70	0,400	0,480	24	28,8										
	C	96	116	0,683	0,820	41	49,2										
	B	116		0,716		49											

Note: G.m. = Cylindrical, male; 1 liter = 0,264 gallon; 1 Kg/cm2 = 14,223 PSI

(*1) Piston's number of strokes during 1 minute with 4 pole motor

I = Reducer ratio 1 : 40 = 35 strokes at 50 Hz / 42 strokes at 60 Hz

F = Reducer ratio 1 : 24 = 58 strokes at 50 Hz / 70 strokes at 60 Hz

C = Reducer ratio 1 : 14,5 = 96 strokes at 50 Hz / 116 strokes at 60 Hz

B = Reducer ratio 1 : 12 = 116 strokes at 50 Hz

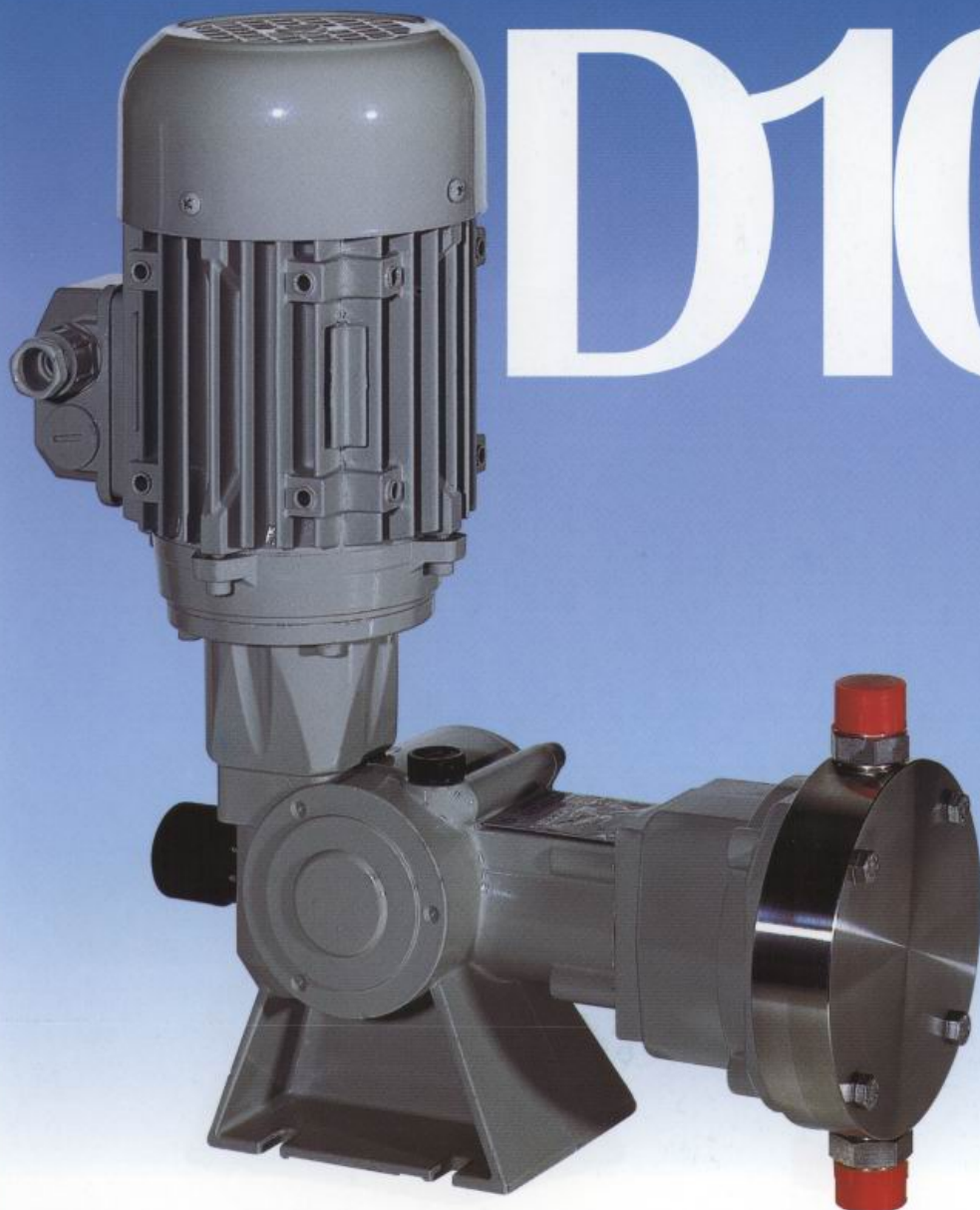
*2) The indicated capacity value is subject to changes due to the working pressure, the dosed liquid, the viscosity.

(*4) Different range of connections are available on request.

(*5) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor.

(6) The pumps can be supplied with accessories if requested.

(7) The pumps are epoxy coated RAL 7030.



D100N

Pump type		Reducer ratio (*1) Strokes number /1		Capacity (*2)				Max Press. Kg/cm2		Connections (*4)		Motor	ø mm Diaph.	Stroke mm	Net Weights (*5) Kg	
		(*1)	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	SS 316	PVC	SS 316	PVC		Length	SS 316	PVC
D-100N- 70	I	35	42	0,75	0,90	45	54									
	F	58	70	1,25	1,50	75	90									
	C	96	116	2,06	2,50	124	150	5		1/2" G.m.		Kw 0.18	70		11	8
	B	116		2,50		150						3 Ph				
D-100N- 90	I	35	42	1,15	1,38	69	82,8									
	F	58	70	1,91	2,30	115	138									
	C	96	116	3,16	3,83	190	230	3		3/4" G.m.		~1400 rpm	90	10	12	8
	B	116		3,83		230						or				
D-100N- 105	I	35	42	1,56	1,87	94	112,3									
	F	58	70	2,60	3,12	156	187,2									
	C	96	116	4,30	4,96	258	298					Kw 0.18	105		13	8.5
	B	116		4,96		298		1,5				1 ph				
D-100N- 120	I	35	42	1,78	2,12	106	127,4									
	F	58	70	2,95	3,54	177	212,4									
	C	96	116	4,86	6,23	292	374			1" G.m.		~1400 rpm	120		14	10
	B	116		6,23		374										

Note: G.m. = Cylindrical, male; 1 liter = 0,264 gallon; 1 Kg/cm2 = 14,223 PSI

(*1) Piston's number of strokes during 1 minute with 4 pole motor

I = Reducer ratio 1 : 40 = 35 strokes at 50 Hz / 42 strokes at 60 Hz
 F = Reducer ratio 1 : 24 = 58 strokes at 50 Hz / 70 strokes at 60 Hz
 C = Reducer ratio 1 : 14,5 = 96 strokes at 50 Hz / 116 strokes at 60 Hz
 B = Reducer ratio 1 : 12 = 116 strokes at 50 Hz

(*2) The indicated capacity value is subject to changes due to the working pressure, the dosed liquid, the viscosity.

(*4) Different range of connections are available on request.

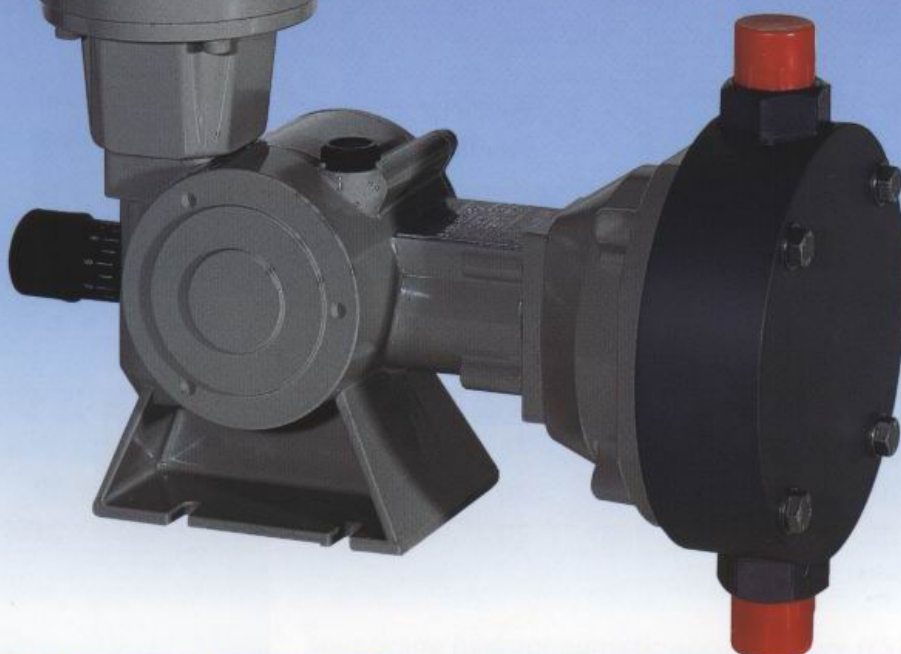
(*5) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor.

(6) The pumps can be supplied with accessories if requested.

(7) The pumps are epoxy coated RAL 7030.



D101N



Pump type		Reducer ratio (*1)		Capacity (*2)				Max Press. (*3)		Connections (*4)		Motor	ø mm Diaph.	Stroke mm	Net Weights (*5)	
		Strokes number /1'		L/1'		L/h		Kg/cm2							Kg	
	(*1)	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	SS 316	PVC	SS 316	PVC			Length	SS 316	PVC
D-101N- 70	F	70	84	1,50	1,80	90	108	8		1/2" G.m.		Kw 0.25 3 Ph	70		11,5	8
	C	96	116	2,05	2,46	123	147,6									
	B	120		2,56		154										
D-101N- 90	F	70	84	2,46	2,96	148	177,6	5		3/4" G.m.		~1400 rpm or Kw 0.25 1 ph	90	10	13,5	10
	C	96	116	3,36	4,04	202	242,4									
	B	120		4,25		255										
D-101N- 105	F	70	84	3,35	4,02	201	241,2	3					105		14,5	11
	C	96	116	4,58	5,50	275	330									
	B	120		5,51		331										
D-101N- 120	F	70	84	3,75	4,50	225	270			1" G.m.		~1400 rpm	120		18	12
	C	96	116	5,13	6,16	308	369,6									
	B	120		6,80		408										

Note: G.m. = Cylindrical, male; 1 liter = 0,264 gallon; 1 Kg/cm² = 14,223 PSI

(*1) Piston's number of strokes during 1 minute with 4 pole motor

F = Reducer ratio 1 : 20 = 70 strokes at 50 Hz / 84 strokes at 60 Hz

C = Reducer ratio 1 : 14,5 = 96 strokes at 50 Hz / 116 strokes at 60 Hz

B = Reducer ratio 1 : 11 = 120 strokes at 50 Hz

(*2) The indicated capacity value is subject to changes due to the working pressure, the dosed liquid, the viscosity.

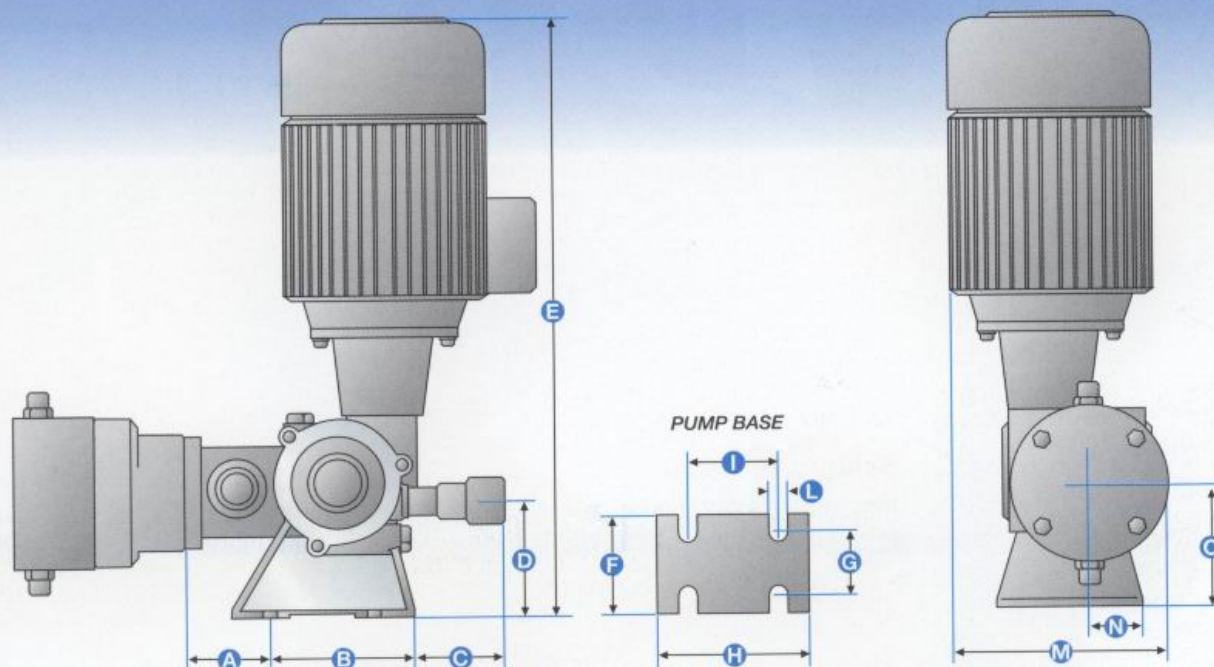
(*4) Different range of connections are available on request.

(*5) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor.

(6) The pumps can be supplied with accessories if requested.

(7) The motors are epoxy coated RAL 7030.

Dimensioni Dimensions



	A	B	C	D	E	F	G	H	I	L	M	N	O
050	57	90	66	75	378	90	70	115	65	7	130	33	80
100	57	90	70	75	378	90	70	115	65	7	130	32	80
101	68	100	75	72	410	90	70	125	65	7	140	32	78

Dimensions in millimeters

Dimensions and configurations may be changed without prior notice for the purpose of product improvement.

Fittings

FITTINGS

All metering pumps can be supplied with accessories in order to improve the operating and accuracy of the pumps.

Relief valves, adjustable to meet the site conditions, may be manufactured in Stainless Steel or PVC on request.

Back pressure valves can be utilized to ensure the correct and accurate

operation of the pump, and to avoid any risk of syphoning.

Safety valves to protect the pump from any type of over pressure and to ensure the maximum reliability.

Hydropneumatic accumulators membran type, featuring stainless steel or PVC and several type of elastomer diaphragms, are available on request.

Accessori Fittings



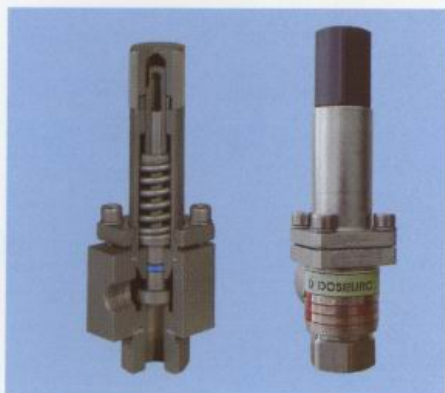
Relief valves and back pressure valves

Type	Pump capacity	Connections	Body material	Diaphragm
VSC-6	90 l/h	1/2" G.F.	PVC or S.S. 316	PTFE / NBR
VSC-10	230 l/h	1/2" G.F.		
VSC-14	420 l/h	3/4" G.F.		
VSC-22	1000 l/h	1" G.F.		

* Relief valve setting pressure: 3+10 kg/cm² (44+145 psi)

Back pressure valve setting pressure: 1+3 kg/cm² (15+44 psi)

G.F. = Cylindrical, Female



Safety relief valve

Type	Pump capacity	Connections	Body material	Diaphragm
TS-10	200 l/h	3/8" o 1/2" G.F.	PVC or S.S. 316	PTFE / NBR
TS-13	400 l/h	1/2" G.F.		
TS-21	1000 l/h	1" G.F.		

* S.S. 316 Relief Safety valve setting pressure: max 40 kg/cm² (588 psi)

PVC Relief Safety valve setting pressure: max 10 kg/cm² (145 psi)

For higher setting pressures consult our technical dept.

G.F. = cylindrical, female



Membrane hydropneumatic accumulators HST type

Type: HSTX

Body in S.S.316, composed of two parts assembled together by means of a special housing that, under dynamic pressures, tends to close itself. Diaphragms to suit the chemicals in use. Built accordingly to the ASME VIII^o Div. 1 rules.

Type: HSTPVC

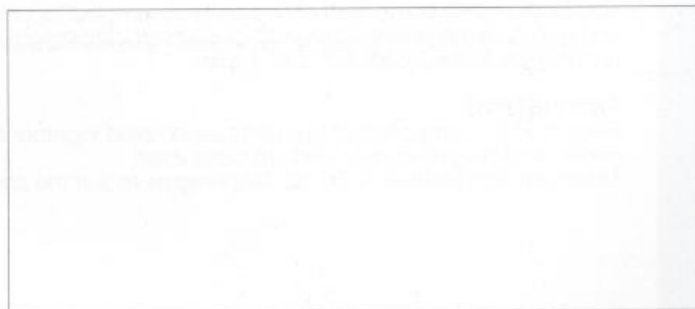
Body in PVC, composed of two parts assembled together by means of a special housing that, under dynamic pressures, tends to close itself.

Maximum temperature: + 50 °C. Diaphragms to suit the chemicals in use.



Our product range also includes:

- Piston metering pumps "A" series;
- Hydraulic diaphragm dosing pumps "B", "BR" and "E" series;
- Mechanical diaphragm dosing pumps "FM" series;
- Polyelectrolyte automatic preparation plants "HA" and "HB" series;
- Polypropylene protected high speed mixers;
- High and slow speed mixers with worm-gear or coaxial reducer.



DOSEURO®

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