

B & BR series

HYDRAULIC
DIAPHRAGM
DOSING PUMPS

DOSEURO®



B

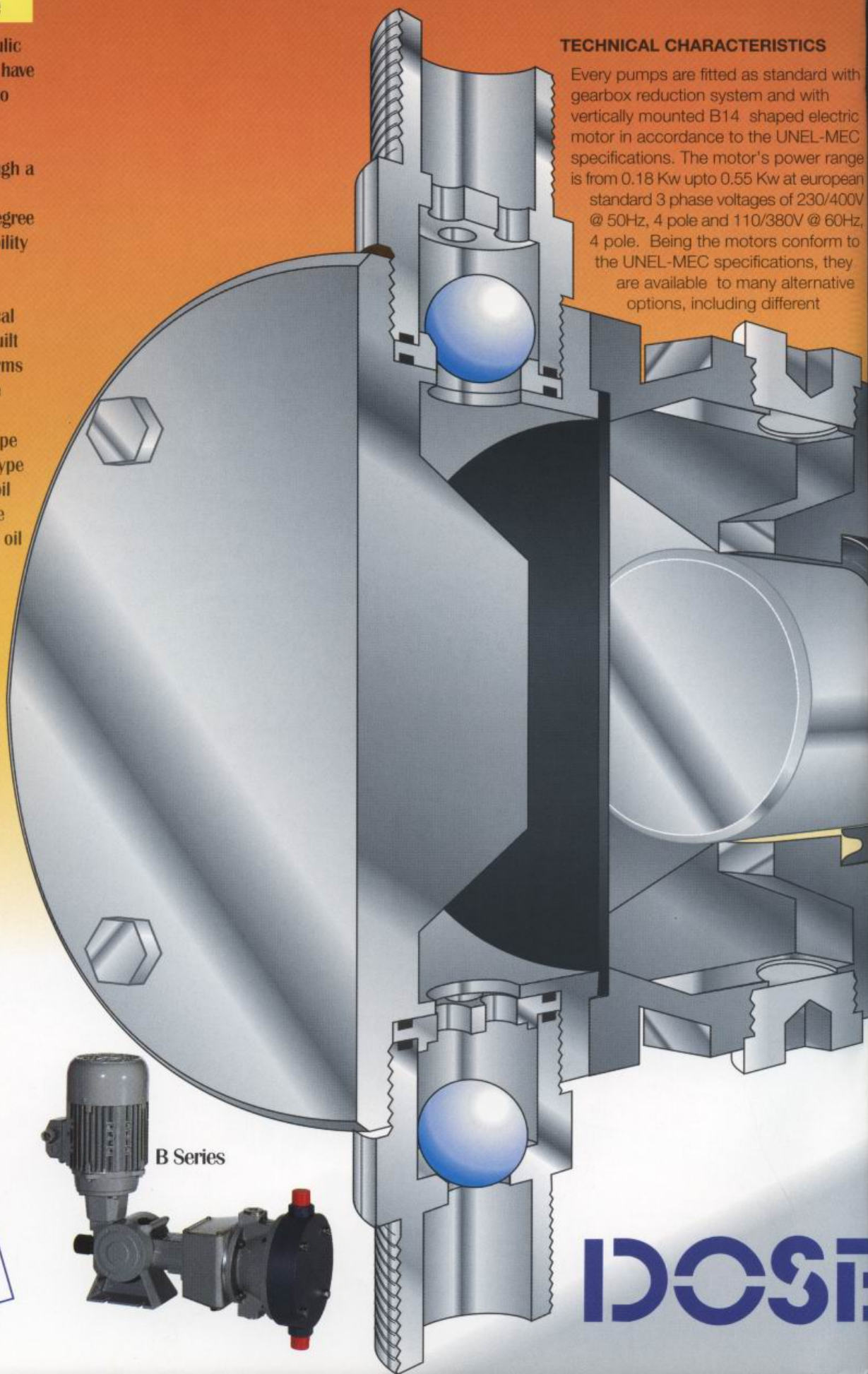
Hydraulic diaphragm Type

"B" and "BR" Series hydraulic 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 petrochemical engineer. The pumps are built accordingly with the CE norms as stated in the EU Machine Guideline.

B - Hydraulic Diaphragm Type
BR - Hydraulic Diaphragm Type equipped with a hydraulic oil reservoir for maintaining the correct amount of oil in the oil chamber

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 0.55 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



IDOS

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 piston delivery stroke (outlet), while the suction stroke (inlet) is spring assisted.

■ The flowrate adjustment is possible whether is or not in operation. The movement of the piston is based on a precise reciprocating

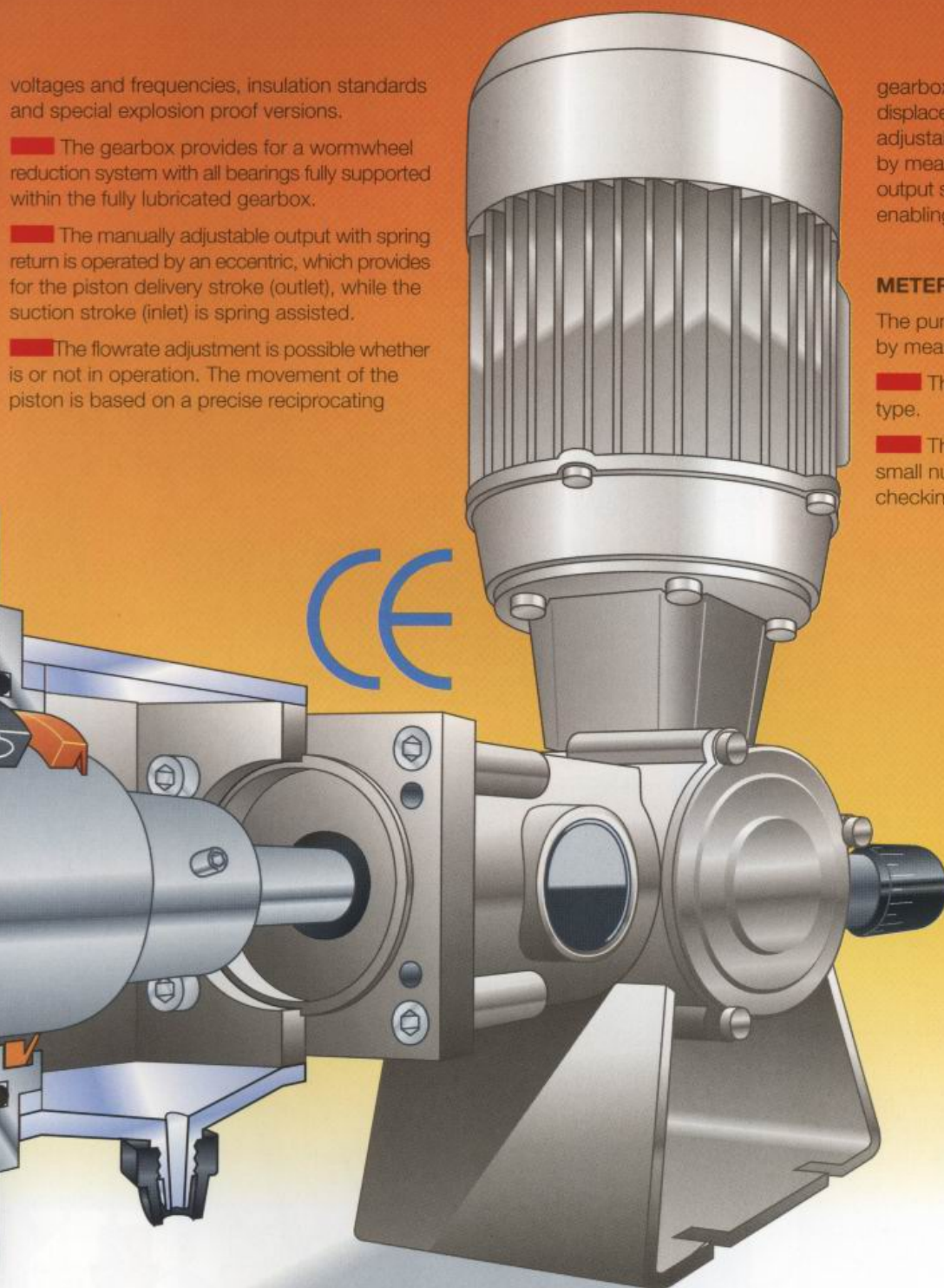
gearbox which provides for exact volumetric displacement. The metering rate is fully manually adjustable. Automatic adjustment is available by means of servo control units, with 4-20mA output signal, or by means of pneumatic control, enabling control from 3-15 PSI signal air.

METERING PUMPHEAD

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

■ The pumphead is hydraulic diaphragm type.

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



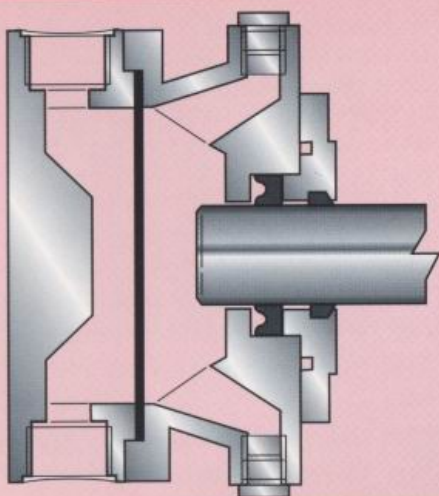
BR Series

EURO®

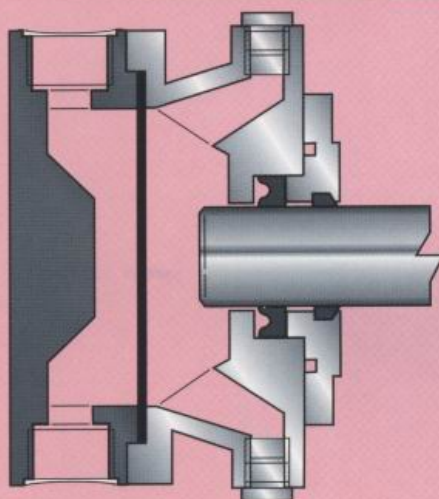


Examples composition

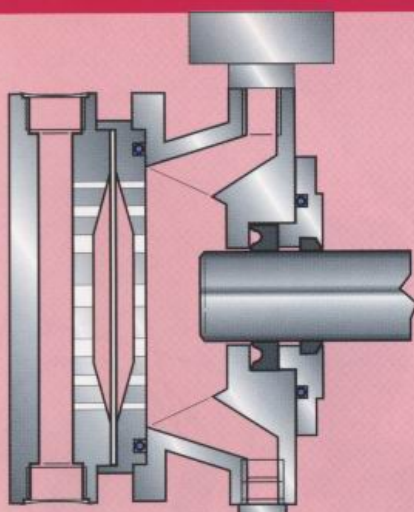
Execution 41



Execution 43



Execution 41 BR



■ "B" and "BR" series Hydraulic Diaphragm pumps are available in three different sizes:

- B 125 N piston stroke 12.5 mm
- B 175 N piston stroke 17.5 mm
- B 250 N piston stroke 25 mm
- BR 125 N piston stroke 12.5 mm
- BR 175 N piston stroke 17.5 mm
- BR 250 N piston stroke 25 mm

For these three types 11 different piston sizes are available to suit each client's applications for capacity and pressure.

■ Hydraulic diaphragm metering pumps are suitable for use when:

The dosed liquid is of abrasive type with small amounts of solids in suspension.

The dosed liquid is a toxic solution.

A drip proof/air tight application is required.

High pressure metering is required.

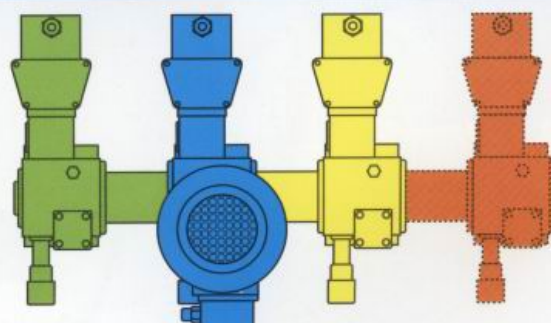
■ Standard materials of pumphead construction:

AlSi 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.

■ Piston seals are in polyurethane rubber.

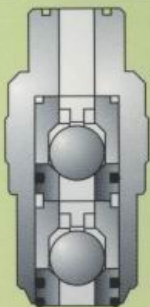


MULTIPLE HEADED PUMPS

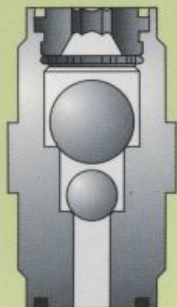
Different multiple heads units are available on request.

Each pumping element is independently adjustable either in operation or not.

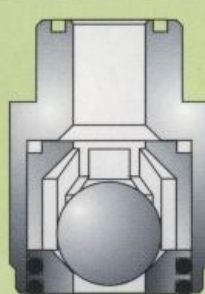
AB 8/14 N DV



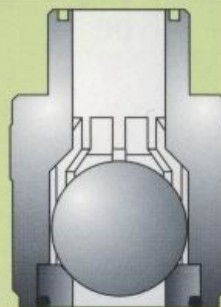
AB 5/21 N DV



AB 11/21 N



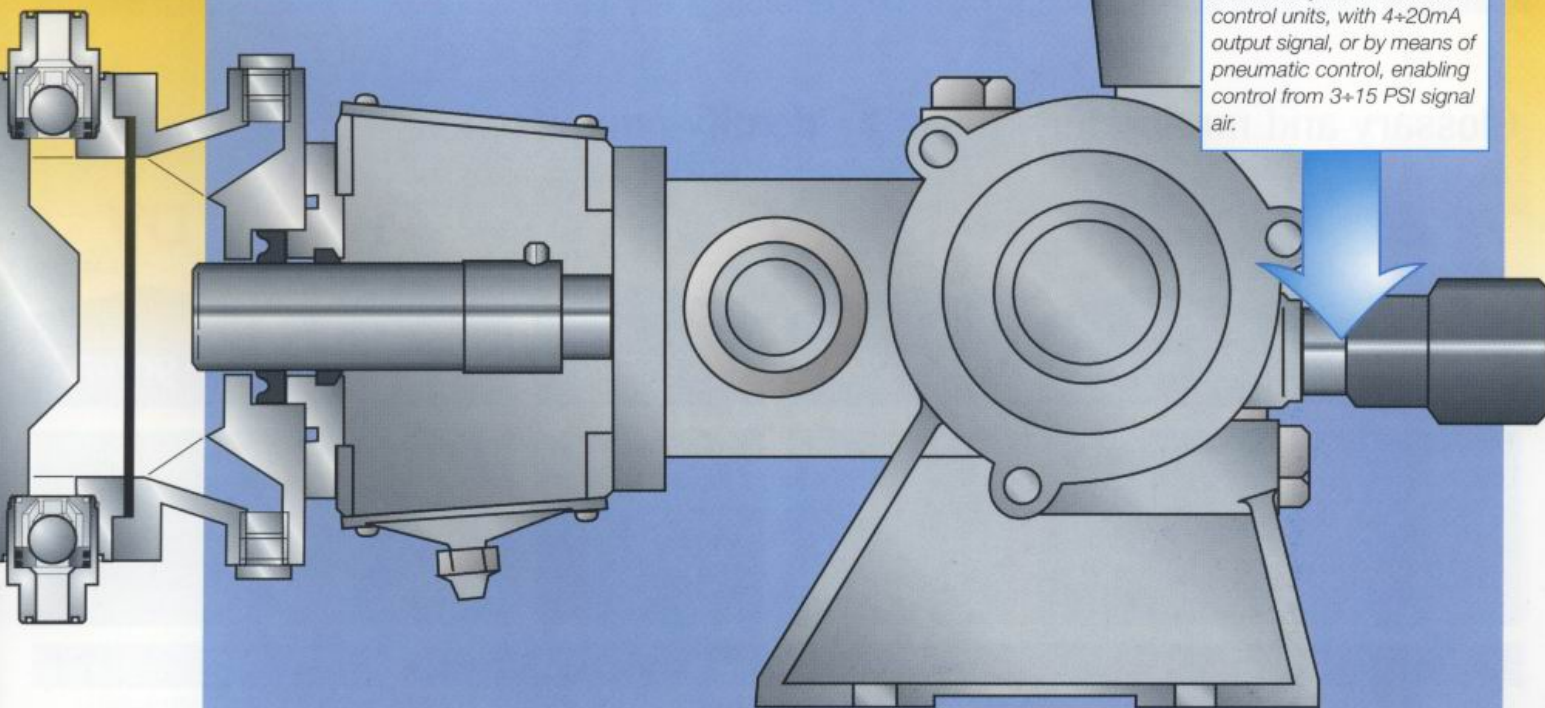
AB 22/14 N



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 upto 0.75 Kw at european standard 3 phase voltages of 230/400V @ 50Hz, 4 pole and 110/380V @ 60 Hz, 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.



B

Hydraulic diaphragm
Type

Hydraulic diaphragm pumps: executions

EXECUT.	PARTS					
	PUMP HEAD	PISTON	VALVE (ball)	VALVE SEATS	DIAPHRAGM	PISTON GASK.
29	PP	AISI 420 TEMP.	PYREX	PP	PTFE/NBR	T20
41	AISI 316	AISI 420 TEMP.	AISI 316	AISI 316	PTFE/NBR	T20
43	PVC	AISI 420 TEMP.	PYREX	PVC	PTFE/NBR	T20

PP = Polypropylene

AISI 316 = Stainless steel 316

AISI 420 TEMP. = Tempered stainless steel 420

T20 = Polyurethane rubber

Glossary and numbering-system to identify pumps type

B	125N	30	/	F	41	DV
1 st group	2 nd group	3 rd group		4 th group	5 th group	6 th group
"B" series hydraulic diaphragm dosing pump	stroke length	piston 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



B125N

Pump type		Reducer ratio (*1)		Capacity (*2)				Max Press. (*3)		Connections (*4)		Motor	ø mm Real piston	ø mm Diaphr.	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				
B-125N- 8	F	58	70	0,025	0,030	1,5	1,8	20	10	1/2" G.m.	12.5	kW 0.18	8	50		9,5	8				
	C	96	116	0,040	0,050	2,4	3														
	B	116		0,050		3															
B-125N- 12	I	35	42	0,045	0,054	2,7	3,2					20	10	1/2" G.m.	12.5	3 Ph ~1400 rpm	12	70		9,5	8
	F	58	70	0,075	0,090	4,5	5,4														
	C	96	116	0,123	0,150	7,4	9														
B-125N- 18	I	35	42	0,110	0,132	6,6	7,9	20	10	1/2" G.m.	12.5					or	18	70		10	9,5
	F	58	70	0,183	0,220	11	13,2														
	C	96	116	0,300	0,366	18	22														
B-125N- 25	I	35	42	0,211	0,252	12,6	15,1					20	10	1/2" G.m.	12.5	kW 0.18	25	70		10	9,5
	F	58	70	0,350	0,420	21	25,2														
	C	96	116	0,566	0,700	34	42														
B-125N- 30	I	35	42	0,301	0,360	18	21,6	14	8	1/2" G.m.	12.5					1 ph ~1400 rpm	30	70		10	9,5
	F	58	70	0,500	0,600	30	36														
	C	96	116	0,816	1,000	49	60														
B-125N- 40	I	35	42	0,543	0,650	32,5	39					8	10	1/2" G.m.	12.5		40	90		11	11
	F	58	70	0,900	1,080	54	65														
	C	96	116	1,483	1,800	89	108														

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

(*1) Piston's number o 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.

(*3) Higher pressures are available.

(*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.



B175N



Pump type		Reducer ratio (*1)		Capacity (*2)				Max Press. Kg/cm2				Connections (*4)	Motor	ø mm Real piston	ø mm Diaphr.	Stroke mm	Net Weights (*5)					
		Strokes number /1		L/1'		L/h											Kg					
			(*1)	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	SS 316							PVC		SS 316	PVC		
								0,25kW	0,37kW		0,25kW	0,37kW										
B-175N- 8	F	70	84	0,043	0,052	2,6	3,12	20		10	1/2* G.m.	kW 0.25 or kW 0.37 3 Ph ~1400 rpm or kW 0.25 or kW 0.37 1 ph ~1400 rpm	8	50	17,5	11,5	11					
	C	96	116	0,058	0,070	3,5	4,2															
	B	120		0,073		4,4																
B-175N- 12	F	70	84	0,126	0,152	7,6	9,12						12			19			12	90	12	11,5
	C	96	116	0,173	0,206	10,4	12,4															
	B	120		0,216		13																
B-175N- 18	F	70	84	0,300	0,360	18	21,6						18			12	11,5					
	C	96	116	0,400	0,480	24	28,8															
	B	120		0,533		32																
B-175N- 25	F	70	84	0,600	0,720	36	43,2						25	70		12,5	12					
	C	96	116	0,816	0,980	49	58,8															
	B	120		1,016		61																
B-175N- 30	F	70	84	0,850	1,020	51	61,2						30	90		12,5	12					
	C	96	116	1,150	1,380	69	82,8															
	B	120		1,466		88																
B-175N- 40	F	70	84	1,533	1,840	92	110,4	12	19	40			13,5			12						
	C	96	116	2,100	2,52	126	151,2															
	B	120		2,630		158																
B-175N- 50	F	70	84	2,400	2,880	144	172,8	7,5	12	7,5	10	3/4* G.m.	~1400 rpm			50	16	15				
	C	96	116	3,283	3,940	197	236,4															
	B	120		4,116		247																
B-175N- 55	F	70	84	2,900	3,480	174	208,8	6,3	9,5	6,3	9,5			55		120	16	15				
	C	96	116	3,966	4,760	238	285,6															
	B	120		4,983		299																
B-175N- 65	F	70	84	4,050	4,860	243	291,6	4,5	7	4,5	7			65			16	15				
	C	96	116	5,550	6,660	333	399,6															
	B	120		6,960		418																

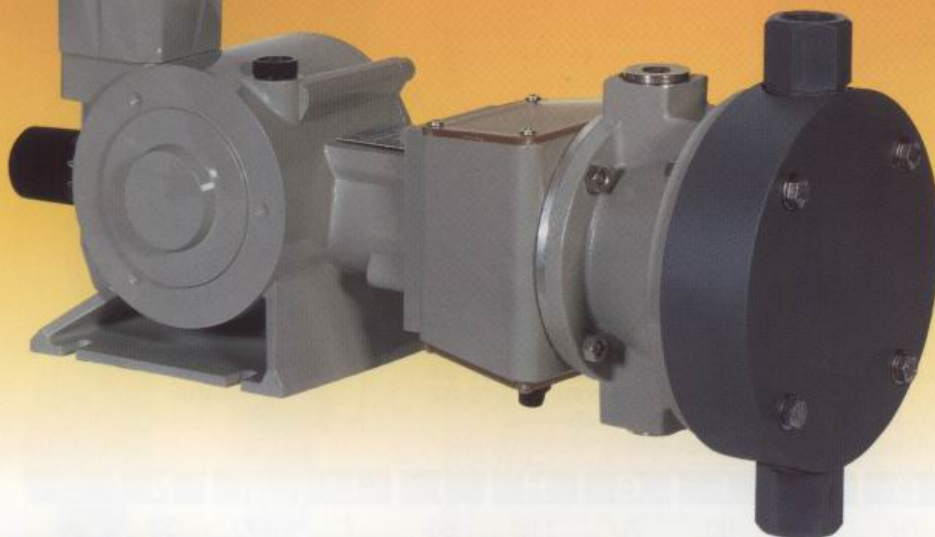
Note: G.m. = Cylindrical, male; 1 liter = 0,264 gallon; 1 Kg/cm2 = 14,223 PSI

(*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

Notes: See next page



B250N



Pump type		Reducer ratio (*1) Strokes number /l		Capacity (*2) L/1' L/h				Max Press. Kg/cm2 SS 316 PVC				Connections (*4)	Motor	ø mm Real piston	ø mm Diaphr.	Stroke mm	Net Weights (*5) Kg							
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,55kW	0,75kW	0,55kW	0,75kW						Length	SS 316	PVC					
B-250N- 40	F	56	67	1,75	2,10	105	126	20				3/4" G.m.	kW 0.55 or kW 0.75 3 Ph ~1400 rpm	40	25		26	23						
	C	96	116	3,00	3,60	180	216							15			20	10	50	26	23			
	B	112		3,50		210																		
B-250N- 50	F	56	67	2,75	3,30	165	198	15	20	10	3/4" G.m.			kW 0.55 or kW 0.75 3 Ph ~1400 rpm			50	26	23					
	C	96	116	4,70	5,63	282	338										12	16	9	10	55	26	23	
	B	112		5,50		330																		
B-250N- 55	F	56	67	3,33	4,00	200	240	12	16			1" G.m.	or kW 0.55 or kW 0.75 1 ph ~1400 rpm				55	26	23					
	C	96	116	5,70	6,83	342	410										9	11	9	10	65	37	26	
	B	112		6,66		400																		
B-250N- 65	F	56	67	4,63	5,56	278	333,6	9	11	9	10			1" G.m.			1 ph ~1400 rpm	65	37	26				
	C	96	116	7,93	9,52	476	571,2											6,6	8,6	6,6	8,6	75	37	26
	B	112		9,26		556																		
B-250N- 75	F	56	67	6,18	7,42	371	445,2	6,6	8,6	6,6	8,6	1" G.m.	1 ph ~1400 rpm					75	37	26				
	C	96	116	10,60	12,72	636	763,2											4,7	6	4,7	6	90	37	26
	B	112		12,36		742																		
B-250N- 90	F	56	67	8,90	10,68	534	640,8	4,7	6	4,7	6			1" G.m.			1 ph ~1400 rpm	90	37	26				
	C	96	116	15,25	18,30	915	1098											4,7	6	4,7	6	90	37	26
	B	112		17,80		1068																		

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 : 25 = 56 strokes at 50 Hz / 67 strokes at 60 Hz

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

B = Reducer ratio 1 : 12,5 = 112 strokes at 50 Hz

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

(*3) Higher pressures are available.

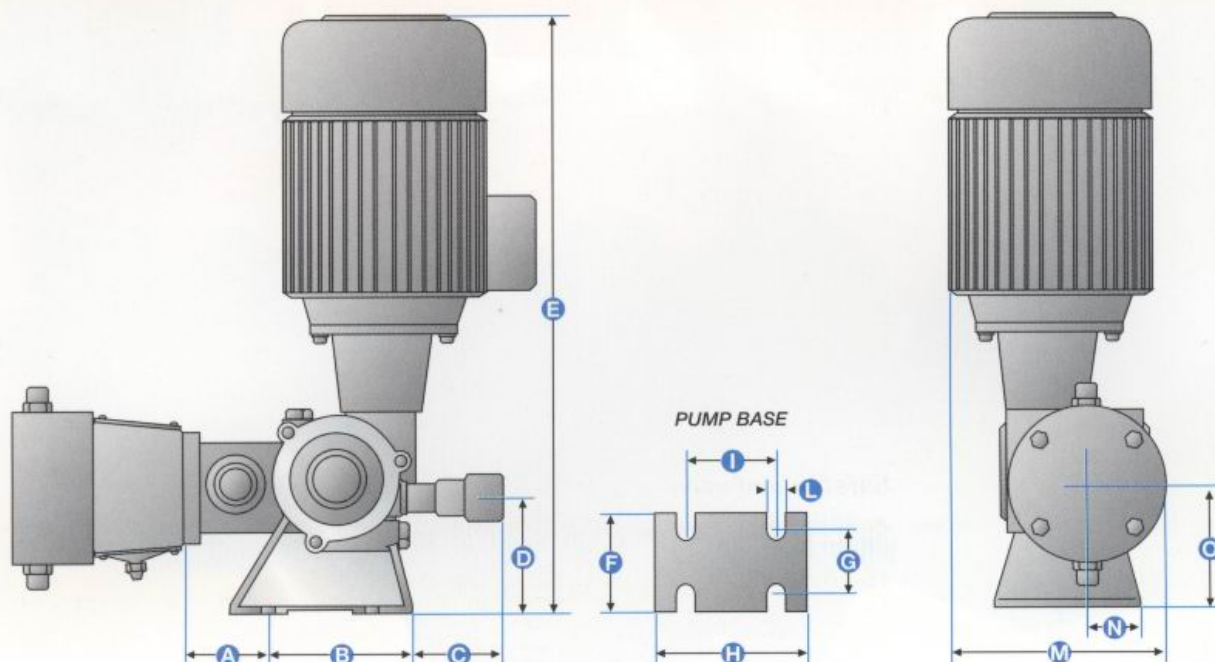
(*4) Different range of connections are available on request.

(*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.

Dimensions



	A	B	C	D	E	F	G	H	I	L	M	N	O
125	57	90	70	75	378	90	70	115	65	7	130	32	80
175	68	100	75	72	410	90	70	125	65	7	140	32	78
250	75	127	120	70	450	154	130	157	102	9	188	60	78

Dimensions in millimeters

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

Fittings

FITTINGS

Every 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 membrane type, featuring stainless steel or PVC and several type of elastomeric diaphragms, are available on request.

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: $3 \pm 10 \text{ kg/cm}^2$ (44±145 psi)
 Back pressure valve setting pressure: $1 \pm 3 \text{ kg/cm}^2$ (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/cm^2 (588 psi)
 PVC Relief Safety valve setting pressure: max 10 kg/cm^2 (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.