

# SR Series

Spring Return dosing pump

SD - sandwich hydraulic diaphragm type  
with an internal relief – refilling valve

# SD



# DOSEURO®

*The right dosing choice*



# SR series

## SUPPORTING ELEMENTS OF OUR PRODUCTS

### Versatility

Different diaphragm sizes are available to suit different applications. Starting from 1.5 l/h to 1068 l/h.

### Reliability

The use of quality materials along with a high degree of accuracy and repeatability assures maximum reliability for the sandwich diaphragm SR series.

### Quality

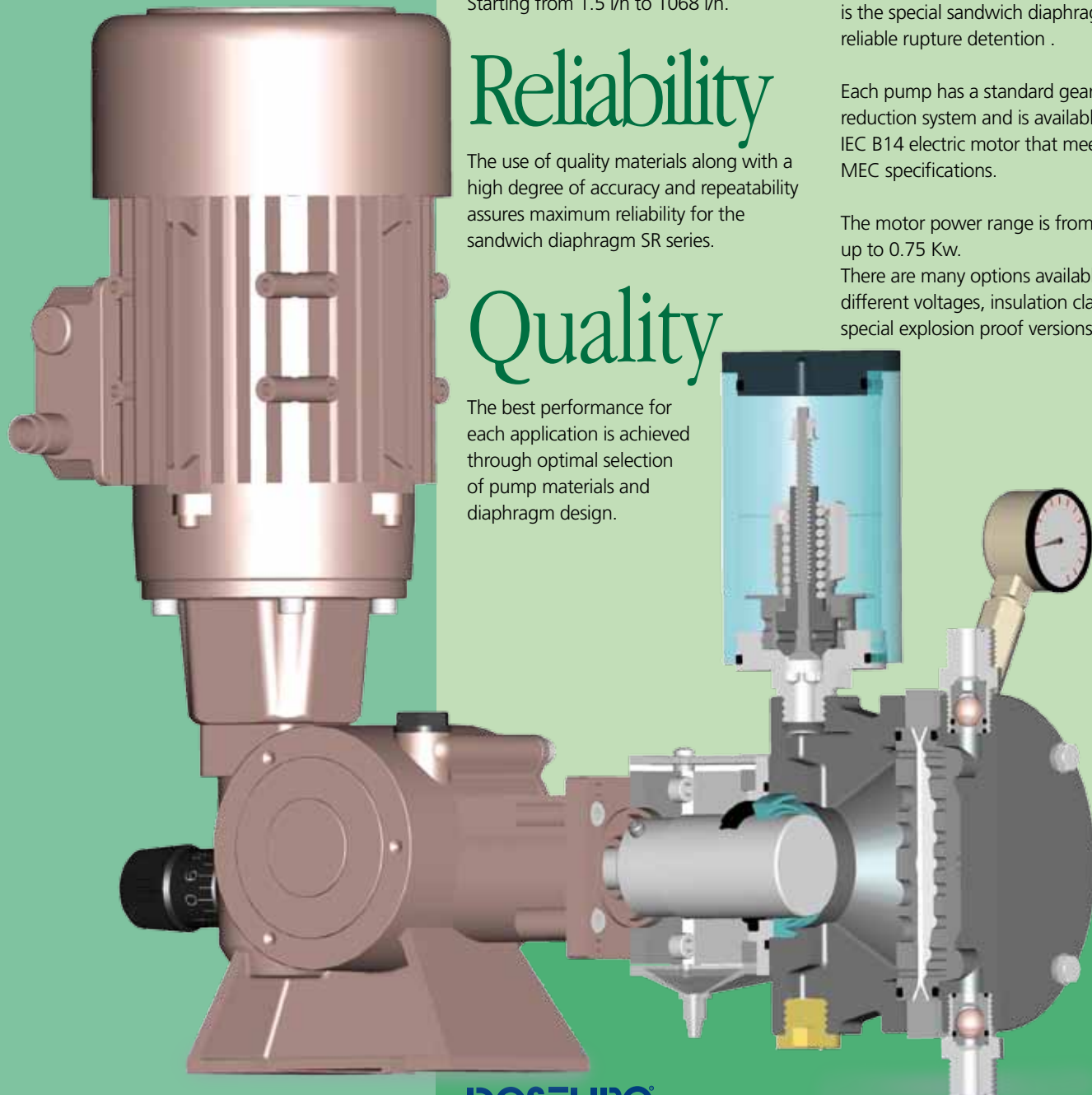
The best performance for each application is achieved through optimal selection of pump materials and diaphragm design.

## FEATURES

Sandwich Hydraulic Diaphragm pumps are suitable for use when: the dosed liquid contains small amounts of suspended solids, abrasive or toxic solution and when piston leakage is not accepted. Is included on the pump a safety valve for guarantee the diaphragm security against over pressure. The characteristics of this pump is the special sandwich diaphragm and the reliable rupture detention .

Each pump has a standard gearbox reduction system and is available with an IEC B14 electric motor that meets UNEL – MEC specifications.

The motor power range is from 0.18 Kw up to 0.75 Kw. There are many options available including different voltages, insulation classes and special explosion proof versions.





# Sandwich Hydraulic Diaphragm Dosing Pump SD Type

The gearbox is a standard wormwheel reduction system with all bearings supported within a fully lubricated gearbox.

The mechanism for adjusting the stroke length is a positive stroke spring return that is operated by an eccentric.

## PUMP HEADS

Pump heads are manufactured in standard materials: S.S.316 and PVC. A wide range of other materials such as HASTELLOY, ALLOY, PTFE, PVDF and PP are also available.

Maximum temperature of fluids pumped:  
60 °C with S.S. 316 pump head  
40 °C with PVC pump head  
Jacketed pump heads for either cooling and heating are available.

## DIAPHRAGM

PTFE.

## DIAPHRAGM ROPTURE DETECTOR

Pressure gauge  
Pressure switches  
Ex-proof Pressure switches

## SUCTION AND DISCHARGE CONNECTIONS

Standard : threaded,  
Upon request: Flanged, UNI , ANSI or NPT.  
All pumps use ball check valves as standard: single or double balls in each valve ,determined by the piston diameter or the materials of construction.

## STROKE ADJUSTMENT

Flow rate adjustment is possible while the pump is running or stopped. The movement of the diaphragm is based on a precise reciprocating gearbox which provides an exact volumetric displacement. Stroke adjustment can be carried out by the following:

- Manual: by a linear micrometer stroke knob.
- Electrical: via servo motor with 4-20 mA input signal or interfaced with PROFIBUS or other BUS.
- Pneumatic: by a pneumatic servo controller with signal from 3 to 15 PSI air input.

## MULTIPLE HEADED PUMPS

Pumps with multiple heads are available upon request.  
Flow rates of each pump head can be adjusted independently while running or stopped.

## "SD" SERIES SANDWICH HYDRAULIC DIAPHRAGM PUMPS ARE AVAILABLE IN DIFFERENT MODEL:

- SD 125N: Stroke length 12.5 mm
- SD 175N: Stroke length 17.5 mm
- SD 250N: Stroke length 25 mm

The above models have different diaphragm sizes for varied capacities and pressures.





# SR series

## SOME STANDARD EXECUTIONS FOR HYDRAULIC DIAPHRAGM PUMPS

EXECUT.	PUMPHEAD	PISTON	VALVE (ball)	VALVE SEAT	DIAPHRAGM	PISTON GASKETS	OIL CHAMBER
<b>03</b>	PVC	S.S. 420 TEMP.	PYREX	PVC	PTFE SANDWICH	AU / NBR	ALLUMINIUM
<b>05</b>	S.S. 316	S.S. 420 TEMP.	S.S. 316	S.S. 316	PTFE SANDWICH	AU / NBR	ALLUMINIUM
<b>06</b>	S.S.316	S.S. 420 TEMP.	S.S. 316	S.S. 316	PTFE SANDWICH	AU / NBR	Fe.00
<b>07</b>	PP	S.S. 420 TEMP.	PYREX	PP	PTFE SANDWICH	AU / NBR	ALLUMINIUM

PP = Polypropylene  
 S.S. 316 = Stainless steel 316  
 S.S. 420 TEMP. = Tempered stainless steel 420

Different executions on request

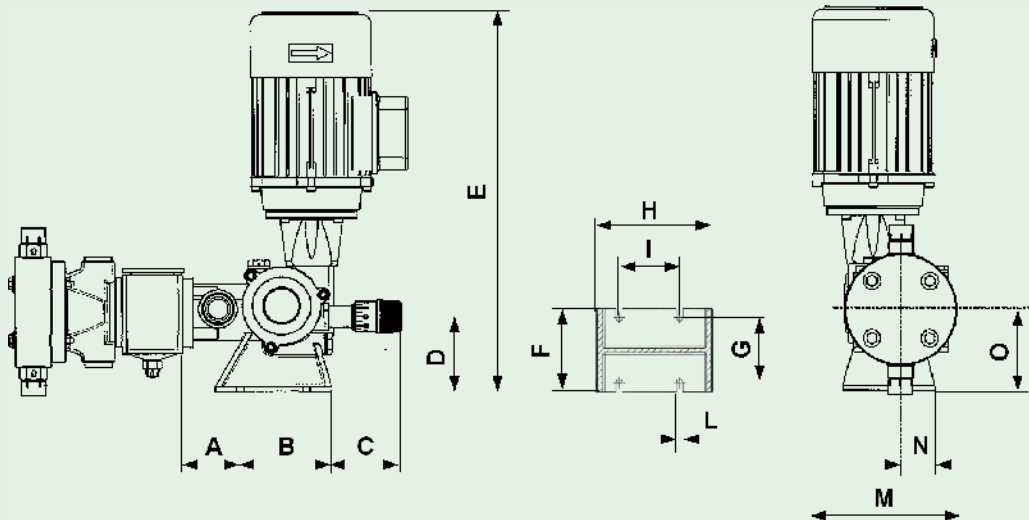
## Glossary and numbering system to identify pumps type

SD	125N	30	B	03	DV
1st group	2nd group	3rd group	4th group	5th group	6th group
"SD" series Sandwich Hydraulic diaphragm dosing pump	Stroke length	Piston diameter in mm	Reduction ratio group (n° of strokes/min) 58=F (1/24) 116=B (1/12)	Materials in touch with the fluid	Not standard- special code

In case of pumps supplied without motor add: W/M

## OVERALL DIMENSIONS

	125	175	250
<b>A</b>	57	68	75
<b>B</b>	90	100	127
<b>C</b>	70	70	120
<b>D</b>	75	73	70
<b>E</b>	375	410	450
<b>F</b>	90	90	154
<b>G</b>	75	75	130
<b>H</b>	115	125	157
<b>I</b>	65	65	102
<b>L</b>	7	7	9
<b>M</b>	130	170	194
<b>N</b>	33	33	60
<b>O</b>	80	78	78



General dimensional quote are indicative and adverted to the maximum acceptable pump dimension

# Sandwich Hydraulic Diaphragm Dosing Pump



## Type SD 125N



### TECHNICAL FEATURES

Pump type	Reducer ratio		Capacity (*2)				Max Press. Kg/cm <sup>2</sup>				Connect. (*3) SS 316 or PVC	Motor features	ø mm		Stroke length	Net weights Kg (*4)		
	(*1)	SPM (*1)		L/1'		L/h		SS 316		PVC			Real piston	Diaphragm.		Kg (*4)		
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,18 kW	0,25 kW	0,18 kW	0,25 kW				SS 316	PVC		
SD-125N-8	F	58	70	0,025	0,030	1,5	1,8	13.5	-	7	-	1/2" G.m.	0.18 kW or 0.25 kW	8	50	12.5 mm	10.5	9
	C	96	116	0,040	0,050	2,4	3										10.5	9
	B	116		0,050		3											10.5	9
SD-125N-12	I	35	42	0,045	0,054	2,7	3,2	13.5	-	7	-	1/2" G.m.	0.18 kW or 0.25 kW	12	50	12.5 mm	10.5	9
	F	58	70	0,075	0,090	4,5	5,4										10.5	9
	C	96	116	0,123	0,150	7,4	9										10.5	9
SD-125N-18	B	116		0,150		9		13.5	-	7	-	1/2" G.m.	0.18 kW or 0.25 kW	18	70	12.5 mm	11	10.5
	I	35	42	0,110	0,132	6,6	7,9										11	10.5
	F	58	70	0,183	0,220	11	13,2										11	10.5
SD-125N-25	C	96	116	0,300	0,366	18	22	13.5	-	7	-	1/2" G.m.	0.18 kW or 0.25 kW	25	70	12.5 mm	11	10.5
	B	116		0,366		22											11	10.5
	I	35	42	0,211	0,252	12,6	15,1										11	10.5
SD-125N-30	F	58	70	0,350	0,420	21	25,2	13.5	-	7	-	1/2" G.m.	0.18 kW or 0.25 kW	30	70	12.5 mm	11	10.5
	C	96	116	0,566	0,700	34	42										11	10.5
	B	116		0,700		42											11	10.5
SD-125N-40	I	35	42	0,301	0,360	18	21,6	9	13.5	7	-	1/2" G.m.	0.18 kW or 0.25 kW	30	70	12.5 mm	11	10.5
	F	58	70	0,500	0,600	30	36										11	10.5
	C	96	116	0,816	1,000	49	60										11	10.5
SD-125N-40	B	116		1,000		60		5	8.5	5	7	1/2" G.m.	0.18 kW or 0.25 kW	40	90	12.5 mm	12	12
	I	35	42	0,543	0,650	32,5	39										12	12
	F	58	70	0,900	1,080	54	65										12	12
SD-125N-40	C	96	116	1,483	1,800	89	108	5	8.5	5	7	1/2" G.m.	0.18 kW or 0.25 kW	40	90	12.5 mm	12	12
	B	116		1,800		108											12	12
	I	35	42	0,543	0,650	32,5	39										12	12

(\*1) Piston's strokes number during 1 minute with 4 poles installed motor (~1400 rpm)

I = Reducer ratio 1 : 40 = 35 strokes at 60 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 / not suitable

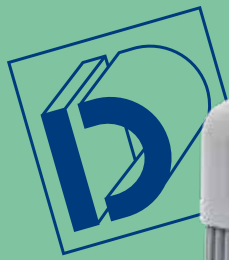
(\*2) The indicated capacity value is subject to changes due to the working pressure, the dosed liquid, the viscosity and the installation asset

(\*3) Different ranges of connections are available on request

(\*4) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor

(\*5) The pumps can be supplied with accessories if requested

(\*6) The pumps are epoxy painted RAL 7030



# SR series

## Type SD 175 N

### TECHNICAL FEATURES

Pump type	Reducer ratio			Capacity (*2)				Max Press. Kg/cm <sup>2</sup>				Connect. (*3)	Motor features	ø mm Real piston	ø mm Diaphragm	Stroke length	Net weights Kg (*4)	
	(*1)	SPM (*1)		L/1'		L/h		SS 316		PVC							SS 316 or PVC	SS 316
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,25 kW	0,37 kW	0,25 kW	0,37 kW							
SD-175N-8	F	70	84	0,043	0,052	2,6	3,12	14	-	7	-	1/2" G.m.	0,25 kW or 0,37 kW	8	50	17,5 mm	12,5	12
	C	96	116	0,058	0,070	3,5	4,2											
	B	120		0,073		4,4												
SD-175N-12	F	70	84	0,126	0,152	7,6	9,12	14	-	7	-	1/2" G.m.	0,25 kW or 0,37 kW	12	50	17,5 mm	13	12,5
	C	96	116	0,173	0,206	10,4	12,4											
	B	120		0,216		13												
SD-175N-18	F	70	84	0,300	0,360	18	21,6	14	-	7	-	1/2" G.m.	0,25 kW or 0,37 kW	18	50	17,5 mm	13	12,5
	C	96	116	0,400	0,480	24	28,8											
	B	120		0,533		32												
SD-175N-25	F	70	84	0,600	0,720	36	43,2	14	-	7	-	1/2" G.m.	0,25 kW or 0,37 kW	25	70	17,5 mm	13,5	13
	C	96	116	0,816	0,980	49	58,8											
	B	120		1,016		61												
SD-175N-30	F	70	84	0,850	1,020	51	61,2	14	-	7	-	1/2" G.m.	0,25 kW or 0,37 kW	30	70	17,5 mm	13,5	13
	C	96	116	1,150	1,380	69	82,8											
	B	120		1,466		88												
SD-175N-40	F	70	84	1,533	1,840	92	110,4	9	13	7	-	1/2" G.m.	0,25 kW or 0,37 kW	40	90	17,5 mm	14,5	13
	C	96	116	2,100	2,52	126	151,2											
	B	120		2,630		158												
SD-175N-50	F	70	84	2,400	2,880	144	172,8	5	7	7	-	1/2" G.m.	0,25 kW or 0,37 kW	50	120	17,5 mm	17	16
	C	96	116	3,283	3,940	197	236,4											
	B	120		4,116		247												
SD-175N-55	F	70	84	2,900	3,480	174	208,8	4	7	7	-	1/2" G.m.	0,25 kW or 0,37 kW	55	120	17,5 mm	17	16
	C	96	116	3,966	4,760	238	285,6											
	B	120		4,983		299												
SD-175N-65	F	70	84	4,050	4,860	243	291,6	3	5	5	-	1/2" G.m.	0,25 kW or 0,37 kW	65	120	17,5 mm	17	16
	C	96	116	5,550	6,660	333	399,6											
	B	120		6,960		418												

(\*1) Piston's strokes number during 1 minute with 4 poles installed motor (~1400 rpm 1')

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 : 11,5 = 120 strokes at 50 Hz / not suitable

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

(\*3) Different ranges of connections are available on request

(\*4) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor

(\*5) The pumps can be supplied with accessories if requested

(\*6) The pumps are epoxy painted RAL 7030

# Sandwich Hydraulic Diaphragm Dosing Pump

## Type SD 250 N



### TECHNICAL FEATURES

Pump type	Reducer ratio		Capacity (*2)				Max Press. Kg/cm <sup>2</sup>				Connect. (*3)	Motor features	ø mm Real piston	ø mm Diaphrag.	Stroke length	Net weights Kg (*4)				
	(*1)	SPM (*1)		L/1'		L/h		SS 316		PVC						SS 316 or PVC	SS 316	PVC		
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,55 kW	0,75 kW	0,55 kW	0,75 kW									
SD-250N-40	F	56	67	1,75	2,10	105	126	7.2	-	7	-	3/4" G.m.	0.55 kW or 0.75 kW	40	120	25 mm	27	24		
	C	96	116	3,00	3,60	180	216										27	24		
	B	112		3,50		210														
SD-250N-50	F	56	67	2,75	3,30	165	198	7.2	-	7	-		3/4" G.m.	0.55 kW or 0.75 kW		50	120	25 mm	27	24
	C	96	116	4,70	5,63	282	338												27	24
	B	112		5,50		330														
SD-250N-55	F	56	67	3,33	4,00	200	240	7.2	-	7	-	3/4" G.m.		0.55 kW or 0.75 kW	55	120		25 mm	27	24
	C	96	116	5,70	6,83	342	410												27	24
	B	112		6,66		400														
SD-250N-65	F	56	67	4,63	5,56	278	333,6	5.9	-	5.9	-		1" G.m.	3 Ph or 1 Ph ~1400 rpm	65		160	25 mm	38	27
	C	96	116	7,93	9,52	476	571,2												38	27
	B	112		9,26		556														
SD-250N-75	F	56	67	6,18	7,42	371	445,2	4.3	5.7	4.3	5.7	1" G.m.		3 Ph or 1 Ph ~1400 rpm	75	160		25 mm	38	27
	C	96	116	10,60	12,72	636	763,2												38	27
	B	112		12,36		742														
SD-250N-90	F	56	67	8,90	10,68	534	640,8	3.1	4	3.1	4		1" G.m.	3 Ph or 1 Ph ~1400 rpm	90		160	25 mm	38	27
	C	96	116	15,25	18,30	915	1098												38	27
	B	112		17,80		1068														

(\*1) Piston's strokes number during 1 minute with 4 poles installed motor (~1400 rpm 1')

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 / not suitable

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

(\*3) Different ranges of connections are available on request

(\*4) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor

(\*5) The pumps can be supplied with accessories if requested

(\*6) The pumps are epoxy painted RAL 7030

# SR series

For high pressure

## Type SD 125 N

Pump type	Reducer ratio			Capacity (*2)				Max Press. Kg/cm <sup>2</sup>		Connect. (*3)	Motor features	ø mm Real piston	ø mm Diaphrag.	Stroke length	Net weights Kg (*4)
	(*1)	SPM (*1)		L/1'		L/h		SS 316							
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,18 kW	0,25 kW						
SD-125N-8	F	58	70	0,025	0,030	1,5	1,8	40	-	1/2" G.m.	0.18 kW or 0.25 kW	8	50	12.5 mm	12,5
	C	96	116	0,040	0,050	2,4	3								
	B	116		0,050		3									
SD-125N-12	I	35	42	0,045	0,054	2,7	3,2	40	-	1/2" G.m.	0.18 kW or 0.25 kW	12	50	12.5 mm	12,5
	F	58	70	0,075	0,090	4,5	5,4								
	C	96	116	0,123	0,150	7,4	9								
SD-125N-18	B	116		0,150		9		21	40	1/2" G.m.	0.18 kW or 0.25 kW	18	70	12.5 mm	13
	I	35	42	0,110	0,132	6,6	7,9								
	F	58	70	0,183	0,220	11	13,2								
SD-125N-25	C	96	116	0,300	0,366	18	22	-	22	1/2" G.m.	0.18 kW or 0.25 kW	25	70	12.5 mm	13
	B	116		0,366		22									
	I	35	42	0,211	0,252	12,6	15,1								
SD-125N-30	F	58	70	0,350	0,420	21	25,2	-	22	1/2" G.m.	0.18 kW or 0.25 kW	30	70	12.5 mm	13
	C	96	116	0,566	0,700	34	42								
	B	116		0,700		42									
SD-125N-30	I	35	42	0,301	0,360	18	21,6	-	15	1/2" G.m.	0.18 kW or 0.25 kW	30	70	12.5 mm	13
	F	58	70	0,500	0,600	30	36								
	C	96	116	0,816	1,000	49	60								
	B	116		1,000		60									

## Type SD 175 N

Pump type	Reducer ratio			Capacity (*2)				Max Press. Kg/cm <sup>2</sup>		Connect. (*3)	Motor features	ø mm Real piston	ø mm Diaphrag.	Stroke length	Net weights Kg (*4)
	(*1)	SPM (*1)		L/1'		L/h		SS 316							
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,25 kW	0,37 kW						
SD-175N-8	F	70	84	0,043	0,052	2,6	3,12	40	-	1/2" G.m.	0.25 kW or 0.37 kW	8	50	17.5 mm	14,5
	C	96	116	0,058	0,070	3,5	4,2								
	B	120		0,073		4,4									
SD-175N-12	F	70	84	0,126	0,152	7,6	9,12	40	-	1/2" G.m.	0.25 kW or 0.37 kW	12	50	17.5 mm	15
	C	96	116	0,173	0,206	10,4	12,4								
	B	120		0,216		13									
SD-175N-18	F	70	84	0,300	0,360	18	21,6	40	-	1/2" G.m.	0.25 kW or 0.37 kW	18	70	17.5 mm	15
	C	96	116	0,400	0,480	24	28,8								
	B	120		0,533		32									
SD-175N-25	F	70	84	0,600	0,720	36	43,2	25	35	1/2" G.m.	0.25 kW or 0.37 kW	25	70	17.5 mm	15,5
	C	96	116	0,816	0,980	49	58,8								
	B	120		1,016		61									
SD-175N-30	F	70	84	0,850	1,020	51	61,2	17	24	1/2" G.m.	0.25 kW or 0.37 kW	30	90	17.5 mm	15,5
	C	96	116	1,150	1,380	69	82,8								
	B	120		1,466		88									
SD-175N-40	F	70	84	1,533	1,840	92	110,4	-	13	1/2" G.m.	0.25 kW or 0.37 kW	40	90	17.5 mm	15,5
	C	96	116	2,100	2,52	126	151,2								
	B	120		2,630		158									
SD-175N-50	F	70	84	2,400	2,880	144	172,8	-	8.5	3/4" G.m.	0.25 kW or 0.37 kW	50	120	17.5 mm	19
	C	96	116	3,283	3,940	197	236,4								
	B	120		4,116		247									



# Sandwich Hydraulic Diaphragm Dosing Pump



## Type SD 250 N

Pump type	Reducer ratio		Capacity (*2)				Max Press. Kg/cm <sup>2</sup>		Connect. (*3)	Motor features	ø mm Real piston	ø mm Diaphragm	Stroke length	Net weights Kg (*4)
	(*1)	SPM (*1)		L/1'		L/h		SS 316						
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0,55 kW	0,75 kW	SS 316				
SD-250N-40	F	56	67	1,75	2,10	105	126	15.7	20.7	3/4" G.m.	40	120	25 mm	29
	C	96	116	3,00	3,60	180	216							
	B	112		3,50		210								
SD-250N-50	F	56	67	2,75	3,30	165	198	9.9	13,2	3/4" G.m.	50	120	25 mm	29
	C	96	116	4,70	5,63	282	338							
	B	112		5,50		330								
SD-250N-55	F	56	67	3,33	4,00	200	240	9	10,8	3/4" G.m.	55	120	25 mm	29
	C	96	116	5,70	6,83	342	410							
	B	112		6,66		400								
SD-250N-65	F	56	67	4,63	5,56	278	333,6	-	7,9	1" G.m.	65	160	25 mm	41
	C	96	116	7,93	9,52	476	571,2							
	B	112		9,26		556								

(\*1) Piston's strokes number during 1 minute with 4 poles installed motor (~1400 rpm 1')

### SD 125N

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 / not suitable

### SD 175N

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 : 11,5 = 120 strokes at 50 Hz / not suitable

### SD 250N

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 / not suitable

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

(\*3) Different ranges of connections are available on request

(\*4) The weight is approximate and is the value of the pump fitted with a totally enclosed fan-cooled outdoor motor.

(\*5) The pumps can be supplied with accessories if requested

(\*6) The pumps are epoxy painted RAL 7030



# Accessories



## Safety relief valves

Type	Pump capacity	Connections
TS-10	200 l/h	3/8" or 1/2" G.F
TS-13	400 l/h	1/2" G.F
TS-21	1000 l/h	1" G.F
<b>Body</b>	PVC or S.S. 316	

\* S.S. 316 Relief - Safety valve setting pressure: max 40 kg/cm<sup>2</sup> (588 Psi) higher pressures are available on request.  
 PVC Relief safety valve setting pressure: max 10 kg/cm<sup>2</sup> (145 Psi).  
 For higher setting pressures consult our technical dept.

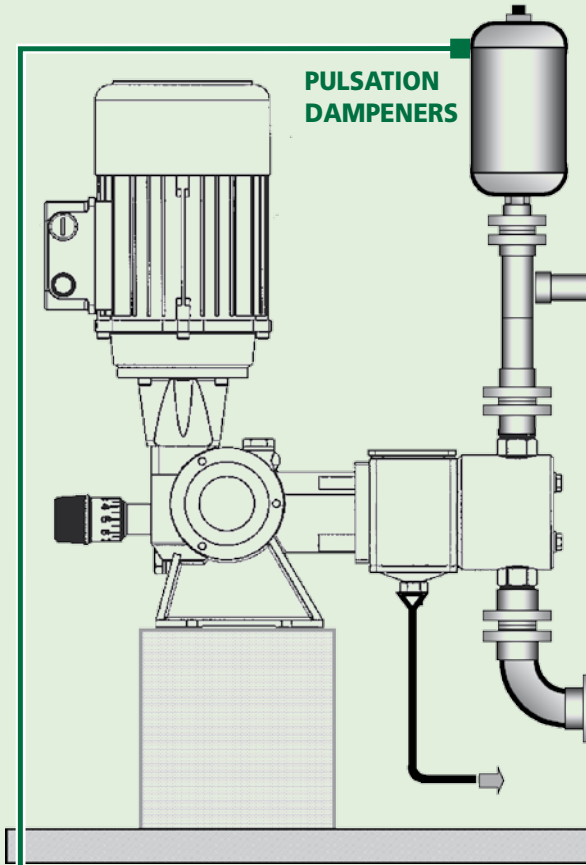


## Pulsation dampeners

Type: HSTX  
 Body in S.S.316, composed of two parts assembled by a special hosing that under dynamic pressures tends to close itself. Diaphragms are compatible to the liquid used. Built in accordance with ASME VIII° Div. 1 rules.



Type: HSTPVC  
 Body in PVC, composed of two parts assembled by a special hosing that under dynamic pressures tends to close itself. Maximum temperature: + 50 °C. Diaphragms are compatible with the process liquid.



Each metering pump can be supplied with accessories in order to improve the operation and accuracy of the units.

The benefits of fluid control assure

- Increase efficiency and pump life
- Decrease maintenance and operation costs

The control of fluid dynamics is essential to ensure efficient and safe use of process systems. Uncontrolled fluid in motion can physically destroy. A pumping system including the pumping, valves, meters, back pressure valves, inline instrumentation and equipment.

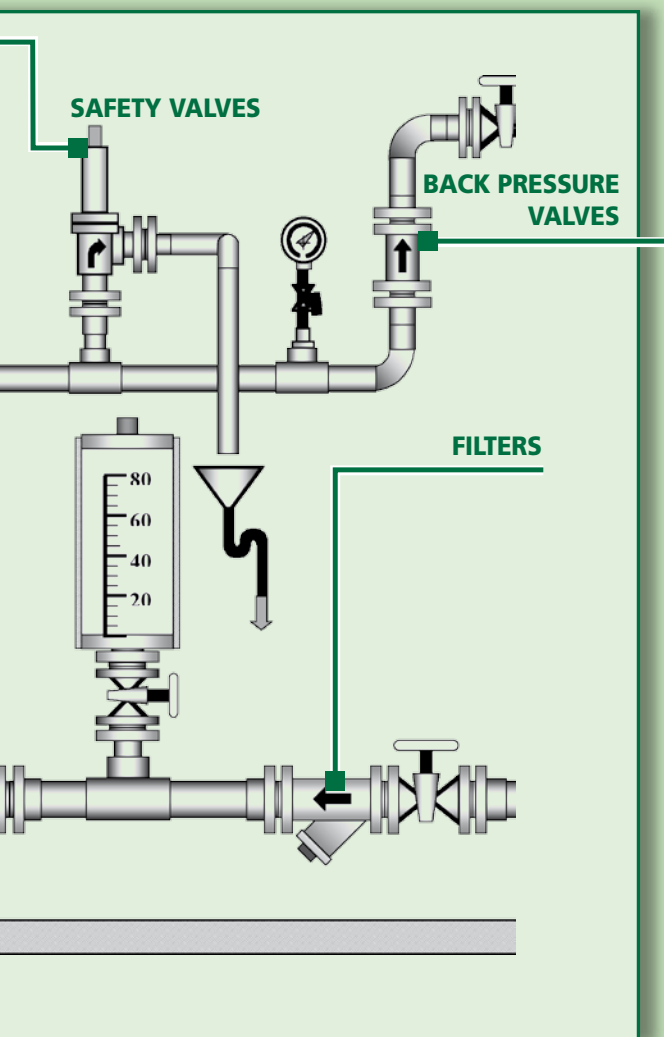
### 1.- FILTERS

We suggest to install filters (on the suction pipe) to keep back impurities that can be presented on liquid to be dosed or coming from pipeline system.

The use of filters assures a trouble-free dosing.

### 2.- SAFETY VALVES

Safety valves are designed to protect the pump and chemical feed system from over pressure damage caused by defective equipment or a blockage in the chemical feed line.



### Relief valves

Type	Pump Capacity	Connections
VSCS-6	90 l/h	1/2" G.F
VSCS-10	230 l/h	1/2" G.F
VSCS-14	420 l/h	3/4" G.F
VSCS-22	1050 l/h	1" G.F

**Body** PVC, PP or S.S. 316

**Diaphragm** PTFE/NBR

\* Relief valve setting pressure:  
3/10 kg/cm<sup>2</sup> (44/145 Psi)  
G.F.= Cylindrical, Female



### Back pressure valves

Type	Pump Capacity	Connections
VSCC-6	90 l/h	1/2" G.F
VSCC-10	230 l/h	1/2" G.F
VSCC-14	420 l/h	3/4" G.F
VSCC-22	1050 l/h	1" G.F

**Body** PVC, PP or S.S. 316

**Diaphragm** PTFE/NBR

\* Back pressure valve setting pressure:  
1/3 kg/cm<sup>2</sup> (15/44Psi)  
G.F.= Cylindrical, Female



#### 3.- BACK PRESSURE VALVES

Back pressure valves apply positive discharge pressure to a metering pump system to prevent siphoning and eliminate varying downstream pressure.

#### 4.- PULSATION DAMPENER

Metering pumps have a pulsating flow. Both spring return plunger dosing pumps and quick closing valves start and stop fluids that are in motion. Spring return plunger dosing pumps derive their pumping action by capturing a given amount of fluid in a chamber and pushing it out the pump's discharge.

Each pump cycle includes a suction stroke during the fluid flow is stopped.

This pumping action produces an acceleration/deceleration of the fluid, creating units of uncontrolled energy, resulting in PULSATION, observed as pressure spikes.

Pulsation dampener is required for two reasons:

- To reduce high, non-permissible pressure fluctuations.
- To create a nearly continuous flow.

### Polyethylene tanks

suitable to be fitted with metering pump on its top





Our range of production also includes:

**SR Series Spring Return:**

Piston dosing pumps: type "A" and "AP-A"  
Mechanical diaphragm dosing pumps: type "D" and "FM"  
Hydraulic diaphragm dosing pumps: type "B" and "BR"

**PDP Series:**

Positive displacement dosing pumps: type "AI" and "AP-AI"  
Positive displacement dosing pumps: type "BI" and "SDI"

**SDP Series:**

Solenoid dosing pumps: type "S"  
Solenoid dosing pumps: type "GA"

**H Series:**

Automatic plants for dissolution and preparation of powder polyelectrolytes:  
type "HA" - "HB" - "HE" and "HA-P"

**EM Series:**

Electric Mixers for chemical mixing:  
type "DAM", "DMT", "DEM", "DRV", "DRC" and "DVL"



Cert. n° 5942

**HEAD OFFICE**

Via G. Carducci 141  
20093 Cologno Monzese (MI) Italy  
Tel.: +39 02 27301324  
Fax: +39 02 26700883  
e-mail: [info@doseuro.com](mailto:info@doseuro.com)  
[www.doseuro.com](http://www.doseuro.com)

**DOSEURO (UK) LTD.**

Unit 8, East Road Industrial Estate  
Sleaford, Lincolnshire NG34 7EH  
Tel.: +44 1529 300045  
Fax: +44 1529 410967  
e-mail: [enquiries@doseuro.co.uk](mailto:enquiries@doseuro.co.uk)  
[www.doseuro.co.uk](http://www.doseuro.co.uk)



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*The right dosing choice*