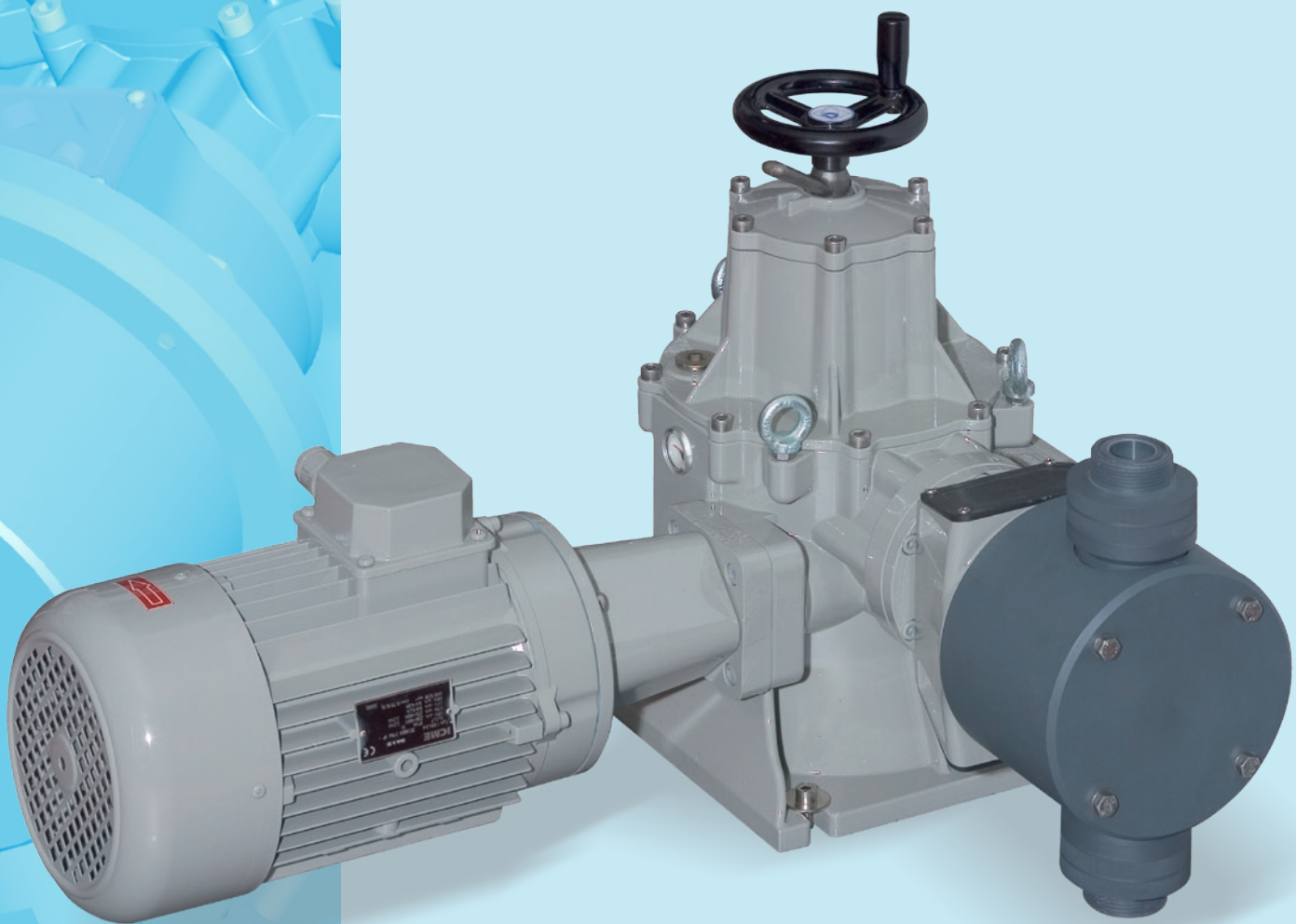


PDP Series

Positive displacement
dosing pump



DOSEURO®

The right dosing choice

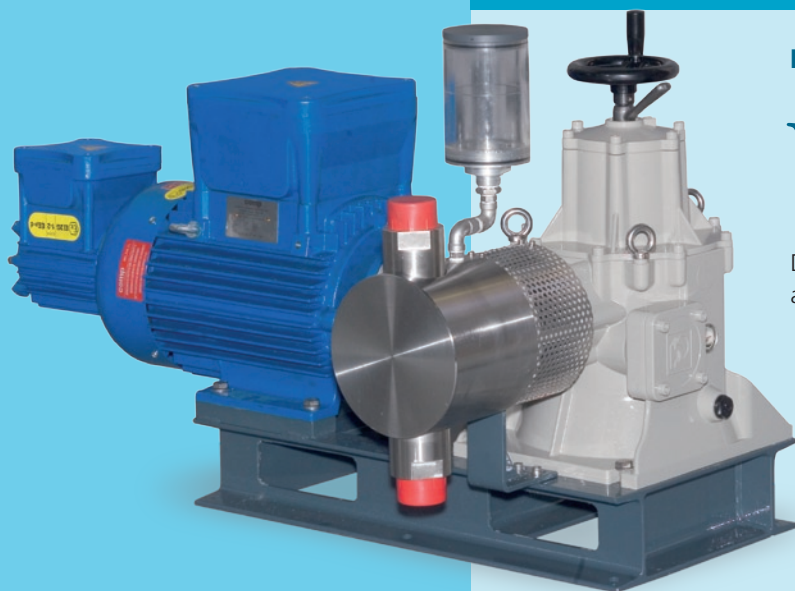


PDP Series

MAIN ELEMENTS TO SUPPORT OUR PRODUCTS

Versatility

Different piston sizes are available to suit each application, starting from 1,3 until 4,000 l/h.



Reliability

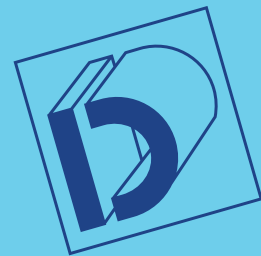
The high degree of accuracy and reproducibility with high quality materials selection make the piston pump series PDP to assure the maximum reliability.



Quality

Appropriate materials are selected for each application.

Positive displacement plunger dosing pump



Type A-I and AP-A I

FEATURES

PDP series positive displacement plunger dosing pump are manufactured according to API standard 675.

Multiplex drive units with different performances can be coupled between them, independently from the size and stroke number.

Stroke adjustment can be carried with the pump at rest or in operation.

Accuracy is better than 1% from 10 to 100% of maximum output.

Lower NPSH requires with normal operating conditions in function of the head type.

PUMPING HEADS

Pumping heads are made in standard execution:

S.S. 316 or PVC.

A wide range of other materials like HASTELLOY, ALLOY, PTFE, PVDF, PP are according to the liquid to be dosed.

Piston gaskets are of the lip type design and are available in a wide range of materials (FPM, EPDM, SILICONE, ADIPRENE).

Liquid handled maximum temperature

- 90°C with S.S. 316 pumps heads.
- 40°C with PVC pump heads.

PLUNGERS

Are made in S.S. 316 or Ceramics:

SUCTION AND DISCHARGE CONNECTIONS

Normally are threaded but they can be supplied also flanged.

All the pumps have a ball valve standard

and on the smaller plunger are installed double check valves to improve precision.

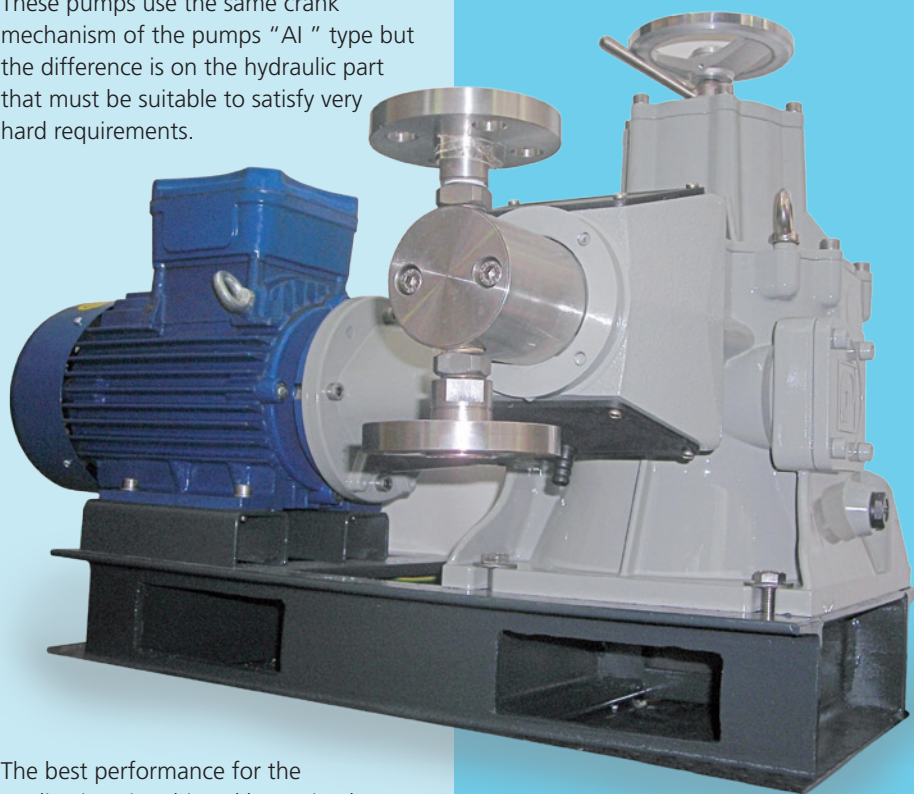
STROKE ADJUSTMENT

Stroke adjustment can be carried out:

- Manual: by a linear micrometer crew.
- Electrical: by servo motor with 4-20 mA signal or upon request interface PROFIBUS or other BUS
- Pneumatic: by pneumatic servo control with signal from 3 to 15 PSI.

HIGH PRESSURE EXECUTION

These pumps use the same crank mechanism of the pumps "AI " type but the difference is on the hydraulic part that must be suitable to satisfy very hard requirements.



The best performance for the applications is achieved by optimal section of plunger material and seal design.



PDP Series

Type A-I 250

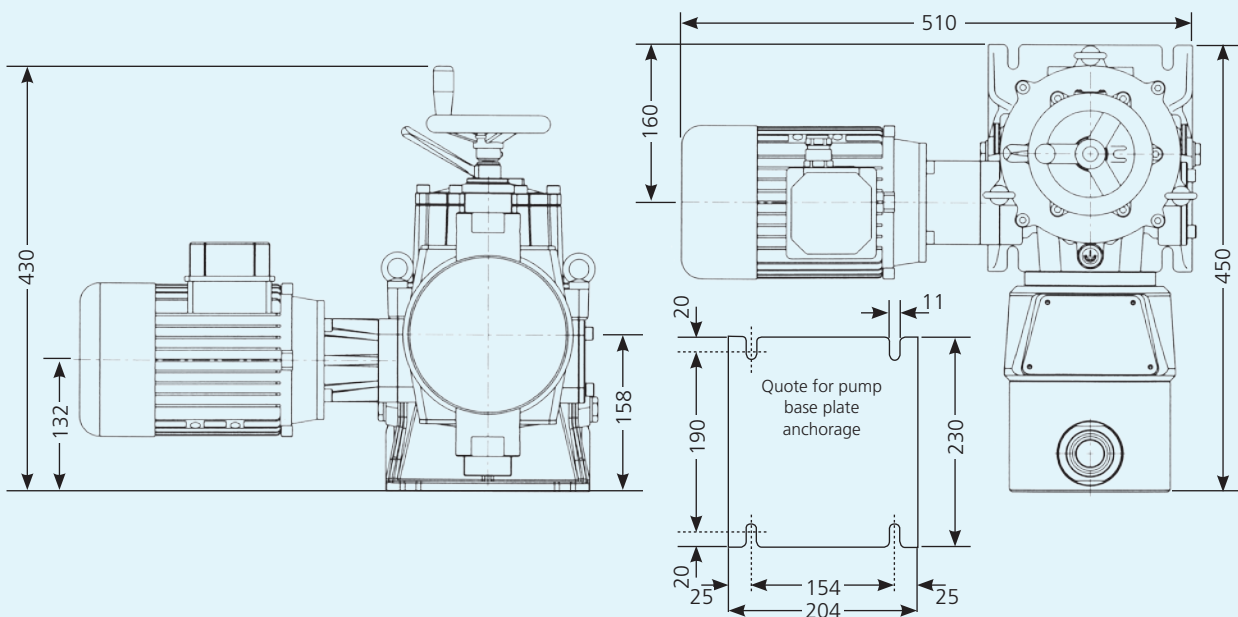


EXECUTION STANDARD MATERIAL

EXECUTION	11	19	13	17	41
Head	S.S. 316L		PVC	S.S. 316L	S.S. 316L
Piston	S.S. 316L		CERAMIC	CERAMIC	CERAMIC
Gasket	NBR	FPM	FPM	FPM	AU
Valve seat	S.S. 316L		PVC	S.S. 316L	S.S. 316L
Valve ball	S.S. 316L		PIREX/PTFE	S.S. 316L	S.S. 316L
Valve gasket	FPM		FPM	FPM	FPM

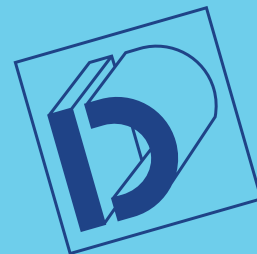
Other material are available according to the liquid to be dosed.

GENERAL OVERALL DIMENSIONS



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

Positive displacement plunger dosing pump



TECHNICAL CHARACTERISTICS

Pump type	Reducer ratio			Capacity				Max Press. Kg/cm ²						Connections			Piston Diam.
	(*1)	SPM		L/1'		L/h		SS316			PVC			Threaded	Flanged		ø mm
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0.55kw	0.75kw	1.1kw	0.55kw	0.75kw	1.1kw	ø G.m.	UNI	ANSI	
A-I 250 - 6	I	36	43	0.02	0.024	1.2	1.44	40	//	//	10	//	//	1/2 "	15	1/2 "	6
	F	58	70	0.03	0.038	1.9	2.28										
	C	100	120	0.06	0.066	3.3	4.0										
	B	116		0.07		3.9											
A-I 250 - 11	F	58	70	0.11	0.134	6.7	8.0	40	//	//	10	//	//	1/2 "	15	1/2 "	11.11
	C	100	120	0.19	0.232	11.6	13.9										
	B	116		0.23		13.50											
	F	58	70	0.30	0.360	18	21.6										
A-I 250 - 18	C	100	120	0.50	0.600	30	36.0	40	//	//	10	//	//	1/2 "	15	1/2 "	17.46
	B	116		0.58		35											
	F	58	70	0.67	0.800	40	48.0										
	C	100	120	1.13	1.360	68	81.6										
A-I 250 - 25	B	116		1.33		80		40	//	//	10	//	//	1/2 "	15	1/2 "	25.4
	F	58	70	0.98	1.180	59	70.8										
	C	100	120	1.68	2.020	101	121.2										
	B	116		1.98		119											
A-I 250 - 30	F	58	70	1.57	1.880	94	112.8	39	//	//	10	//	//	1/2 "	15	1/2 "	38.1
	C	100	120	2.70	3.240	162	194.4										
	B	116		3.15		189											
	F	58	70	2.47	2.960	148	177.6										
A-I 250 - 38	C	100	120	4.23	5.080	254	304.8	20	//	//	10	//	//	3/4 "	20	3/4 "	47.63
	B	116		4.93		296											
	F	58	70	3.17	3.800	190	228.0										
	C	100	120	5.43	6.520	326	391.2										
A-I 250 - 47	B	116		6.33		380		15	19.5	//	10	//	//	3/4 "	20	3/4 "	53.98
	F	58	70	4.38	5.260	263	315.6										
	C	100	120	7.52	9.020	451	541.2										
	B	116		8.77		526											
A-I 250 - 54	F	58	70	6.32	7.580	379	454.8	10	//	//	10	//	//	1 "	25	1 "	63.5
	C	100	120	10.83	13.000	650	780.0										
	B	116		12.63		758											
	F	58	70	8.60	10.320	516	619.2										
A-I 250 - 64	C	100	120	14.75	17.700	885	1062.0	5.8	7	//	5.8	7	//	1 "	25	1 "	88.9
	B	116		17.20		1032											
	F	58	70	10.53	12.640	632	758.4										
	C	100	120	18.07	21.680	1084	1300.8										
A-I 250 - 76	B	116		21.08		1265		4.5	6	//	4.5	6	//	1-1/2 "	40	1-1/2 "	98.43
	F	58	70	12.68	15.220	761	913.2										
	C	100	120	21.73	26.080	1304	1564.8										
	B	116		25.37		1522											
A-I 250 - 89	F	58	70	15.83	19.000	950	1140.0	3.9	//	//	3.9	//	//	1-1/2 "	40	1-1/2 "	107.95
	C	100	120	27.15	32.580	1629	1954.8										
	B	116															
	F	58	70														
A-I 250 - 98	C	100	120					3.1	3.9	//	3.1	3.9	//	1-1/2 "	40	1-1/2 "	120.65
	B	116															
	F	58	70														
	C	100	120														
A-I 250 - 108	B	116						3.1	3.9	//	3.1	3.9	//	1-1/2 "	40	1-1/2 "	120.65
	F	58	70														
	C	100	120														
	B	116															
A-I 250 - 120	F	58	70					3.1	3.9	//	3.1	3.9	//	1-1/2 "	40	1-1/2 "	120.65
	C	100	120														
	B	116															
	F	58	70														

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

I = Reducer ratio 1 : 38 = 36 strokes at 50 Hz / 43 strokes at 60 Hz

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

C = Reducer ratio 1 : 14 = 100 strokes at 50 Hz / 120 strokes at 60 Hz

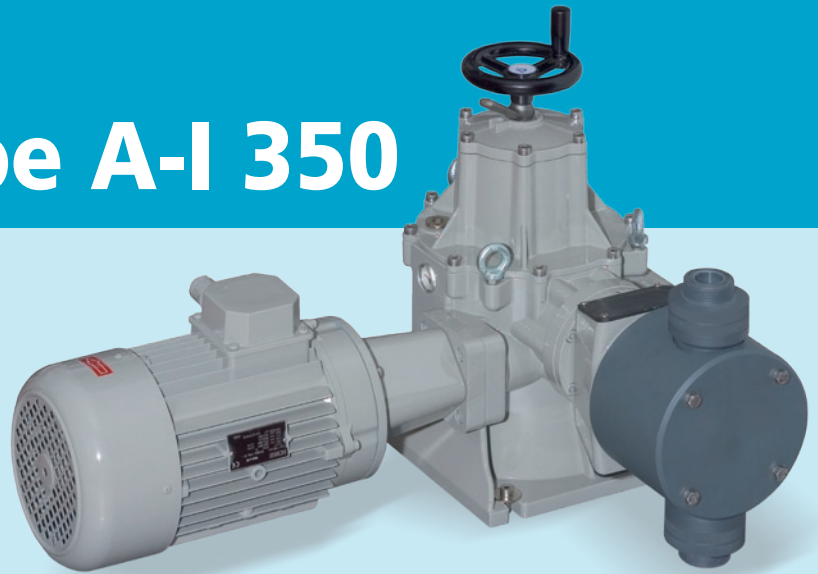
B = Reducer ratio 1 : 12 = 116 strokes at 50 Hz / 140 strokes at 60 Hz (not suitable)

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



PDP Series

Type A-I 350

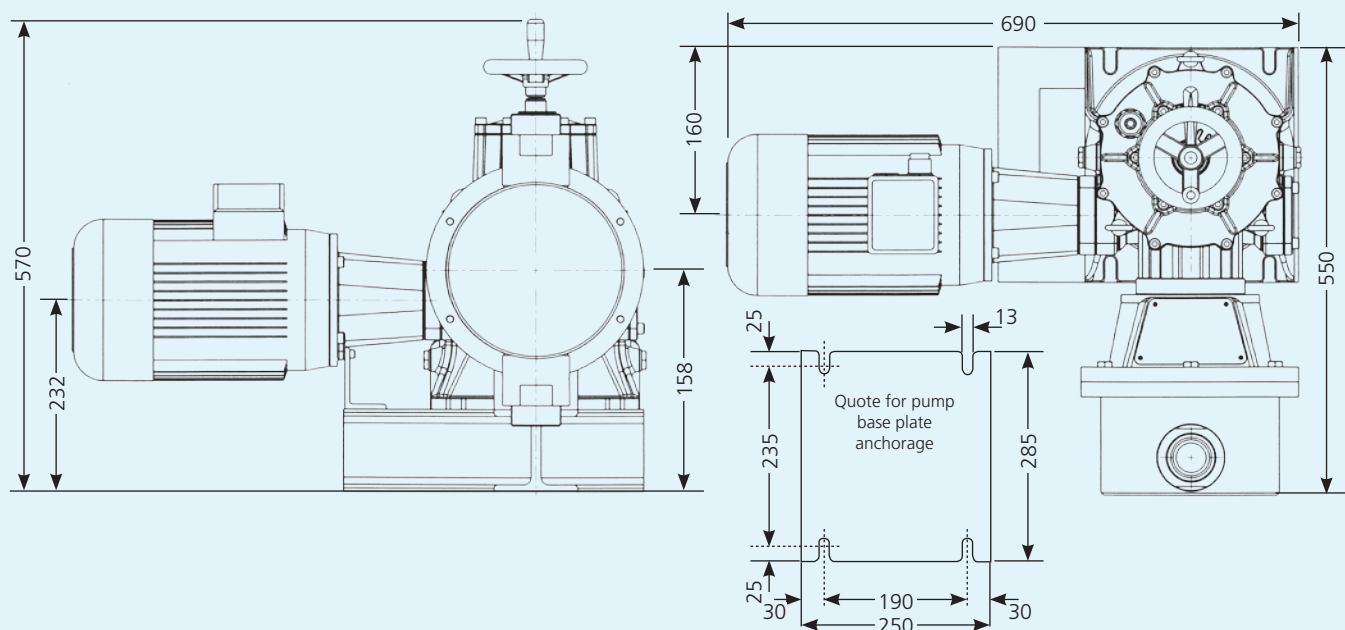


EXECUTION STANDARD MATERIAL

EXECUTION	11	19	13	17	41
Head	S.S. 316L		PVC	S.S. 316L	S.S. 316L
Piston	S.S. 316L		CERAMIC	CERAMIC	CERAMIC
Gasket	NBR	FPM	FPM	FPM	AU
Valve seat	S.S. 316L		PVC	S.S. 316L	S.S. 316L
Valve ball	S.S. 316L		PIREX/PTFE	S.S. 316L	S.S. 316L
Valve gasket	FPM		FPM	FPM	FPM

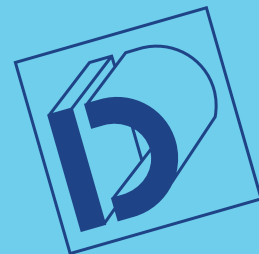
Other material are available according to the liquid to be dosed.

GENERAL OVERALL DIMENSIONS



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

Positive displacement plunger dosing pump



TECHNICAL CHARACTERISTICS

Pump type	Reducer ratio			Capacity				Max Press. Kg/cm²							Connections			Piston Diam.
		SPM		L/1'		L/h		SS316				PVC			Threaded	Flanged		
		(*1)	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	1.1 Kw	1.5 Kw	2.2 Kw	3 Kw	1.1 Kw	1.5 Kw	2.2 Kw	ø G.m.	UNI	ANSI
A-I 350 - 25	F	51	61	0.87	1.040	52	62.4	40	//	//	//	10	//	//	1/2 "	15	1/2 "	25.4
	C	90	108	1.43	1.720	86	103.2											
	B	103	124	1.65	1.980	99	118.8											
	A	121				117												
A-I 350 - 30	F	51	61	1.23	1.480	74	88.8	40	//	//	//	10	//	//	1/2 "	15	1/2 "	30.16
	C	90	108	2.13	2.560	128	153.6											
	B	103	124	2.47	2.960	148	177.6											
	A	121		2.88		173												
A-I 350 - 38	F	51	61	1.97	2.360	118	141.6	40	//	//	//	10	//	//	3/4"	20	3/4"	38.1
	C	90	108	3.42	4.100	205	246.0	40	//									
	B	103	124	3.93	4.720	236	283.2	40	//									
	A	121		4.62		277		37	40									
A-I 350 - 47	F	51	61	3.07	3.680	184	220.8	40	//	//	//	10	//	//	3/4"	20	3/4"	47.63
	C	90	108	5.35	6.420	321	385.2	32	40									
	B	103	124	6.15	7.380	369	442.8	27	38									
	A	121		7.22		433		23	32									
A-I 350 - 54	F	51	61	3.93	4.720	236	283.2	39	//	//	//	10	//	//	1"	25	1"	53.98
	C	90	108	6.87	8.240	412	494.4	25	34									
	B	103	124	7.88	9.460	473	567.6	21	29									
	A	121		9.25		555		18.5	25									
A-I 350 - 64	F	51	61	5.47	6.560	328	393.6	28	//	//	//	10	//	//	1"	25	1"	63.5
	C	90	108	9.52	11.420	571	685.2	18	24									
	B	103	124	10.92	13.100	655	786.0	15.5	21									
	A	121		12.82		769		13	18									
A-I 350 - 76	F	51	61	7.87	9.440	472	566.4	19.5	//	//	//	10	//	//	1"	25	1"	76.2
	C	90	108	13.70	16.440	822	986.4	12.5	17									
	B	103	124	15.72	18.860	943	1131.6	11	14.5									
	A	121		18.47		1108		9	12.5									
A-I 350 - 89	F	51	61	10.70	12.840	642	770.4	14.5	//	//	//	10	//	//	1-1/2 "	40	1-1/2 "	88.9
	C	90	108	18.63	22.360	1118	1341.6	9	12.5									
	B	103	124	21.40	25.680	1284	1540.8	8	10.5									
	A	121		25.12		1507		6.8	9.3									
A-I 350 - 98	F	51	61	13.12	15.740	787	944.4	12	//	//	//	10	//	//	1-1/2 "	40	1-1/2 "	98.43
	C	90	108	22.85	27.420	1371	1645.2	7.5	10									
	B	103	124	26.23	31.480	1574	1888.8	6.5	8.5									
	A	121		30.80		1848		5.6	7.6									
A-I 350 - 108	F	51	61	15.78	18.940	947	1136.4	10	//	//	//	10	//	//	1-1/2 "	40	1-1/2 "	107.95
	C	90	108	27.48	32.980	1649	1978.8	6	8.5									
	B	103	124	31.55	37.860	1893	2271.6	5.4	7.4									
	F	51	61	19.72	23.660	1183	1419.6	8	//									
A-I 350 - 120	C	90	108	34.33	41.200	2060	2472.0	5	6.5	8	//	5	6.5	8	2"	50	2"	120.65
	B	103	124	39.42	47.300	2365	2838.0	4	6	8	//	4	6	8				
A-I 350 - 127	F	51	61	21.83	26.200	1310	1572.0	7	//	//	//	7	//	//	2"	50	2"	127
	C	90	108	38.05	45.660	2283	2739.6	4.5	6	7	//	4.5	6	7				
	B	103	124	43.68	52.420	2621	3145.2	4	5	7	//	4	5	7				
A-I 350 - 140	F	51	61	26.43	31.720	1586	1903.2	6	//	//	//	6	//	//	2"	50	2"	139.7
	C	90	108	46.03	55.240	2762	3314.4	3.7	5	6	//	3.7	5	6				
	B	103	124	52.85	63.420	3171	3805.2	3	4.5	6	//	3	4.5	6				
A-I 350 - 152	F	51	61	31.45	37.740	1887	2264.4	5	//	//	//	5	//	//	2"	50	2"	152.40
	C	90	108	54.78	65.740	3287	3944.4	3	4	5	//	3	4	5				
	B	103	124	62.90	75.480	3774	4528.8	2.5	3.5	5	//	2.5	3.5	5				
A-I 350 - 160	F	51	61	34.15	40.980	2049	2458.8	4.5	//	//	//	4.5	//	//	2"	50	2"	158.8
	C	90	108	59.48	71.380	3569	4282.8	3	4	4.5	//	3	4	4.5				

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

F = Reducer ratio 1 : 27 = 51 strokes at 50 Hz / 61 strokes at 60 Hz

C = Reducer ratio 1 : 15,5 = 90 strokes at 50 Hz / 108 strokes at 60 Hz

B = Reducer ratio 1 : 13,5 = 103 strokes at 50 Hz / 124 strokes at 60 Hz

A = Reducer ratio 1 : 11,5 = 121 strokes at 50 Hz / 144 strokes at 60 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.



PDP Series

Type AP-A I 250



EXECUTION STANDARD MATERIAL

EXECUTION	32	41
Head	S.S. 316L	S.S. 316L
Piston	S.S. 420 Temp.	CERAMIC
Gasket	COT+NBR	COT+NBR
Valve seat	S.S. 316L	S.S. 316L
Valve ball	S.S. 316L	S.S. 316L
Valve gasket	FPM	FPM

Other material are available according to the liquid to be dosed.

Pump type	Reducer ratio			Capacity				Max Press. Kg/cm ²			Connections			Piston Diam.
	(*)	SPM		L/1'		L/h		S.S.316			Thread.	Flanged		ø mm
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	0.55 Kw	0.75 Kw	1.1 Kw		UNI	ANSI	
AP-A I 250 - 8	I	36	43	0.04	0.044	2.2	2.64	250	//	//	1 / 2 "	15	1 / 2 "	8
	F	58	70	0.06	0.070	3.5	4.2							
	C	100	120	0.10	0.120	6	7.2							
	B	116		0.12		7								
AP-A I 250 - 12	F	58	70	0.13	0.160	8	9.6	250	//	//	1 / 2 "	15	1 / 2 "	12
	C	100	120	0.23	0.280	14	16.8							
	B	116		0.28		17								
AP-A I 250 - 16	F	58	70	0.27	0.320	16	19.2	224	//	//	1 / 2 "	15	1 / 2 "	16
	C	100	120	0.45	0.540	27	32.4	179	224	//				
	B	116		0.52		31		153	209	224				
AP-A I 250 - 22	F	58	70	0.50	0.600	30	36.0	118	//	//	1 / 2 "	15	1 / 2 "	22
	C	100	120	0.85	1.020	51	61.2	94	118	//				
	B	116		1.00		60		81	110	118				
AP-A I 250 - 25	F	58	70	0.65	0.780	39	46.8	91	//	//	1 / 2 "	15	1 / 2 "	25
	C	100	120	1.10	1.320	66	79.2	73	91	//				
	B	116		1.28		77		63	85	91				
AP-A I 250 - 30	F	58	70	0.98	1.180	59	70.8	63	//	//	1 / 2 "	15	1 / 2 "	30
	C	100	120	1.68	2.020	101	121.2	50	63	//				
	B	116		1.95		117		43	59	63				
AP-A I 250 - 35	F	58	70	1.33	1.600	80	96.0	46	//	//	1 / 2 "	15	1 / 2 "	35
	C	100	120	2.28	2.740	137	164.4	37	46	//				
	B	116		2.67		160		32	43	46				

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

I = Reducer ratio 1 : 38 = 36 strokes at 50 Hz / 43 strokes at 60 Hz

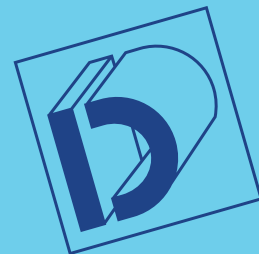
F = Reducer ratio 1 : 24 = 58 strokes at 50 Hz / 70 strokes at 60 Hz

C = Reducer ratio 1 : 14 = 100 strokes at 50 Hz / 120 strokes at 60 Hz

B = Reducer ratio 1 : 12 = 116 strokes at 50 Hz / 140 strokes at 60 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.

Positive displacement plunger dosing pump



Type AP-A I 350



Pump type	Reducer ratio			Capacity				Max Press. Kg/cm ²				Connections			Piston Diam.
	(*)	SPM		L/1'		L/h		S.S.316				Thread.	Flanged		ø mm
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	1.1 kW	1.5 kW	2.2 kW	3 kW	ø G.m.	UNI	ANSI	
AP-A I 350 - 16	F	51	61	0.33	0.390	19.5	23.4	250	//	//	//	1 / 2 "	15	1 / 2 "	16
	C	90	108	0.57	0.680	34	40.8	250	//	//					
	B	103	124	0.65	0.780	39	46.8	246	250	//					
	A	121		0.75		45		210	250	//					
AP-A I 350 - 22	F	51	61	0.62	0.740	37	44.4	236	//	//	//	1 / 2 "	15	1 / 2 "	22
	C	90	108	1.08	1.300	65	78.0	149	204	236					
	B	103	124	1.23	1.480	74	88.8	130	178	236					
	A	121		1.45		87		111	151	222					
AP-A I 350 - 25	F	51	61	0.80	0.960	48	57.6	183	//	//	//	1 / 2 "	15	1 / 2 "	25
	C	90	108	1.40	1.680	84	100.8	116	158	183					
	B	103	124	1.60	1.920	96	115.2	101	137	183					
	A	121		1.88		113		86	117	172					
AP-A I 350 - 30	F	51	61	1.22	1.460	73	87.6	127	//	//	//	1 / 2 "	15	1 / 2 "	30
	C	90	108	2.12	2.540	127	152.4	80	109	127					
	B	103	124	2.43	2.920	146	175.2	70	95	127					
	A	121		2.85		171		59	81	119					
AP-A I 350 - 35	F	51	61	1.65	1.980	99	118.8	93	//	//	//	3 / 4 "	20	3 / 4 "	35
	C	90	108	2.88	3.460	173	207.6	59	80	93					
	B	103	124	3.32	3.980	199	238.8	51	70	93					
	A	121		3.88		233		43	59	87					
AP-A I 350 - 40	F	51	61	2.17	2.600	130	156.0	71	//	//	//	3 / 4 "	20	3 / 4 "	40
	C	90	108	3.77	4.520	226	271.2	45	61	71					
	B	103	124	4.33	5.200	260	312.0	39	53	71					
	A	121		5.08		305		33	45	67					
AP-A I 350 - 50	F	51	61	3.38	4.060	203	243.6	45	//	//	//	1 "	25	1 "	50
	C	90	108	5.88	7.060	353	423.6	29	39	45					
	B	103	124	6.77	8.120	406	487.2	25	34	45					
	A	121		7.95		477		21	29	43					

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

F = Reducer ratio 1 : 27 = 51 strokes at 50 Hz / 61 strokes at 60 Hz

C = Reducer ratio 1 : 15,5 = 90 strokes at 50 Hz / 108 strokes at 60 Hz

B = Reducer ratio 1 : 13,5 = 103 strokes at 50 Hz / 124 strokes at 60 Hz

A = Reducer ratio 1 : 11,5 = 121 strokes at 50 Hz / 144 strokes at 60 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.



PDP Series

Correct installation and

THE BENEFITS OF FLUID CONTROL ASSURE

- Increase efficiency and pump life.
- Decrease maintenance and operating 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, in-line instrumentation and equipment.

1 FILTERS

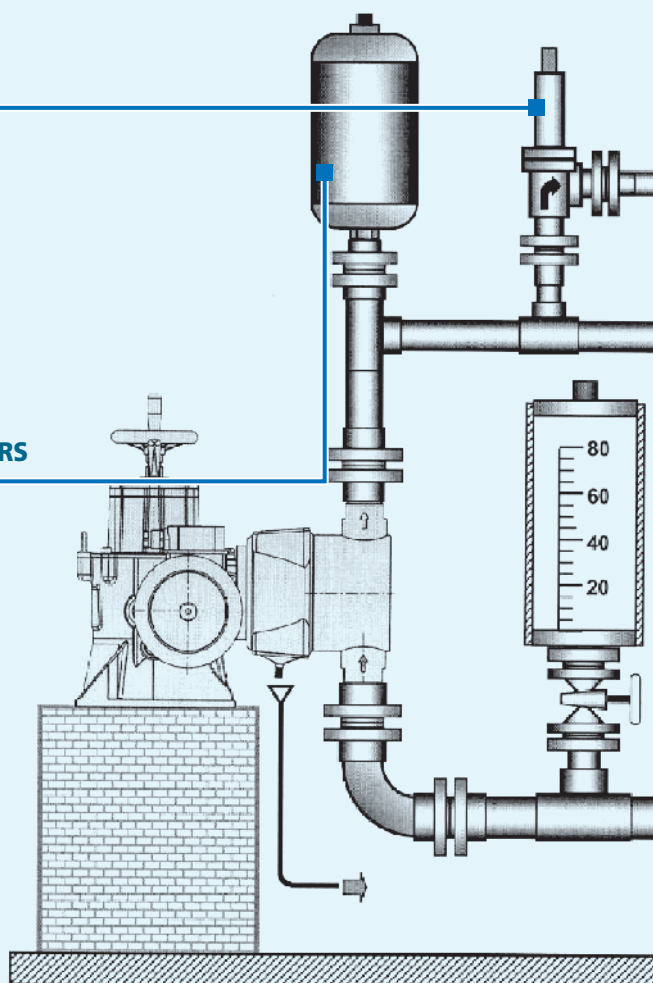
We suggest to install filters (on the suction pipe) to keep back impurities that can be presented on liquid to dose or coming from pipeline system. The use of filters assures a trouble-free dosing.

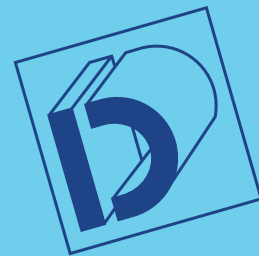
2 SAFETY VALVES

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.

2 SAFETY VALVES

4 PULSATION DAMPENERS





Positive displacement plunger dosing pump

accessories

3 BACK PRESSURE VALVES

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

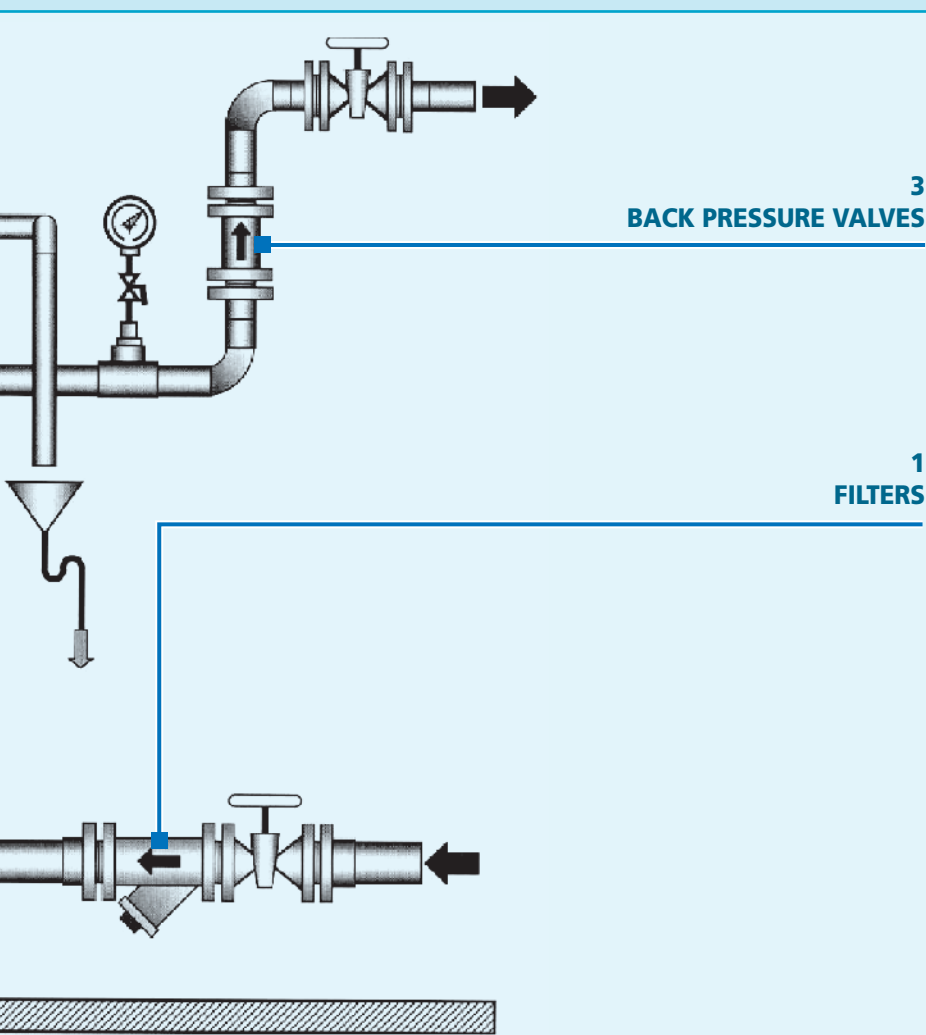
4 PULSATION DAMPENER

Metering pumps have a pulsating flow. Both positive displacement pumps and quick closing valves start and stop fluids that are in motion. Positive displacement 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 which 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.





Our range of production also includes:

PDP series:

Hydraulic diaphragm dosing pumps "BI-SDI"

SR series:

Plunger dosing pumps "A" types

Hydraulic diaphragm dosing pumps "B", "BR" and "SD" types

Mechanical diaphragm dosing pumps "D" types

Mechanical diaphragm dosing pumps "FM" types

SDP series:

Solenoid dosing pumps "S" type

Solenoid dosing pumps "GA" type

H series:

Automatic plants for dissolution and preparation of powder polyelectrolytes "HA", "HB" types

EM series:

Electric mixers for chemical mixing "DMT", "DEM", "DRV" and "DRC" types



Cert. n° 5942

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