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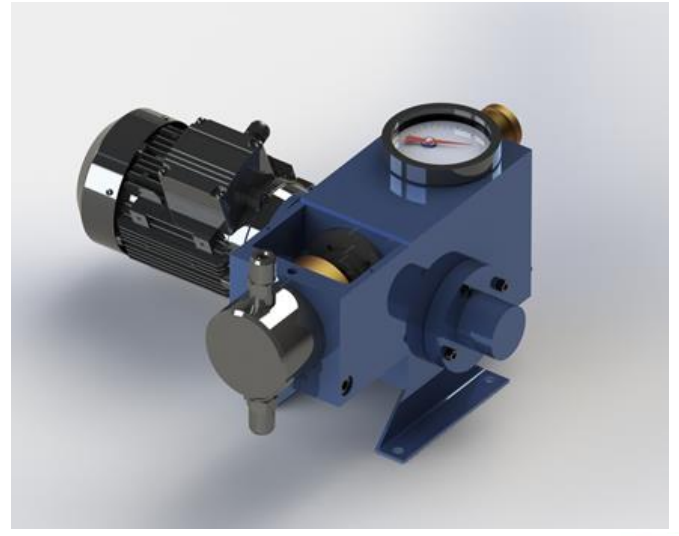
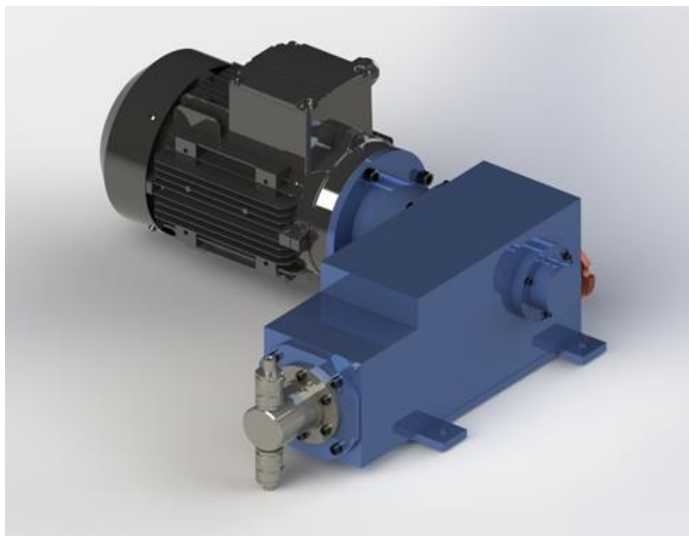
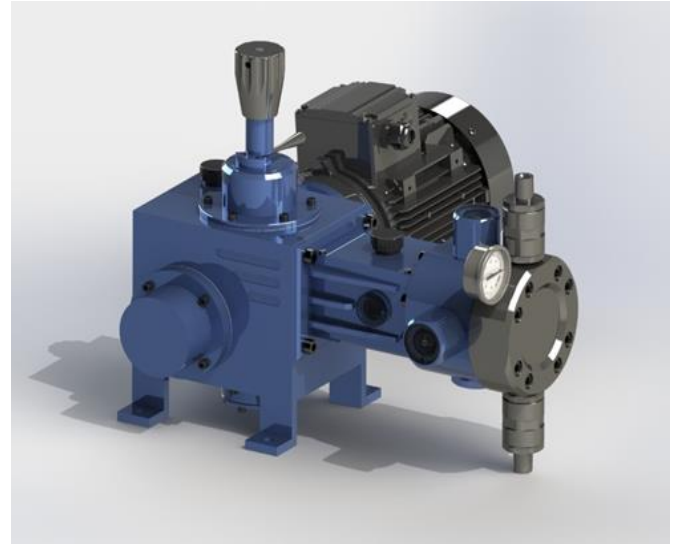
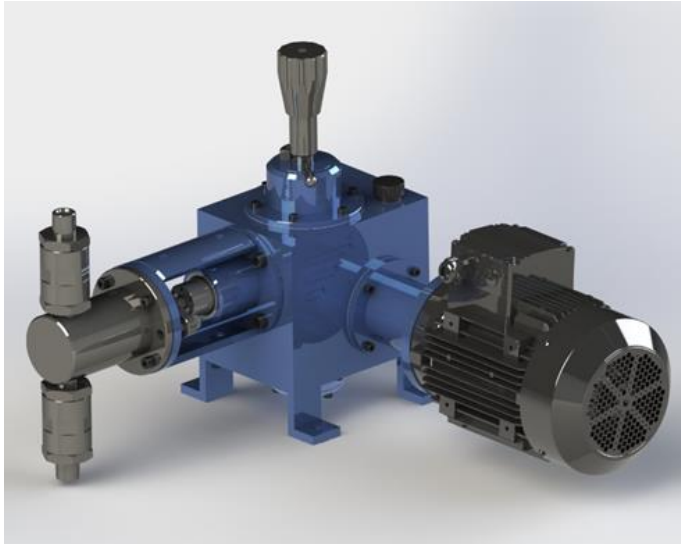
Bjelovarska cesta 18; Koprivnica, Croatia

DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

DOSING PUMP PROGRAM



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Bjelovarska cesta 18; Koprivnica, Croatia

DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

PLUNGER DOSING PUMP

TYPE: DPA-001

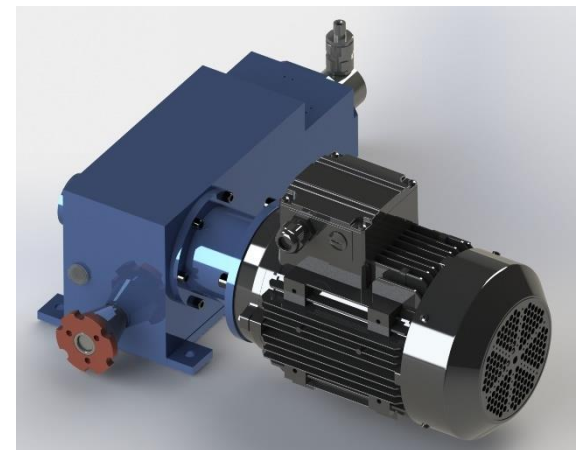
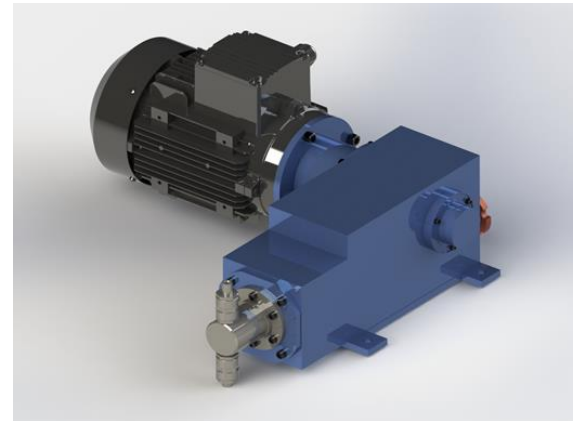
The dosing-pump unit DPA-001 is designed for operation in conditions of pressures up to 500 bars and supply quantities of up to 3000 l/h. If the unit works in explosive mixture, the unit can be equipped with an explosion proof electric motor.

The dosing pump unit has no mobile parts outside the housing, which guarantees operator safety during control or setting working conditions when the unit is in operation.

It is intended for operation in food processing, pharmaceutical, oil and other industry where precise regulation of media dosing is required. The supply regulation is performed by changing the piston stroke length by the regulation screw. The number of strokes is constant.

Piston as well as suction and pressure valve are manufactured in metal or non-metal design depending on the type of media for which the pump is intended for. For neutral and medium aggressive media, pumps are manufactured from stainless steel and they can be used for service pressures up to 500 bars and supply quantities up to 3000 l/h.

For aggressive media supply, pumps are manufactured from "PVC" material with a ceramic piston. Those pumps can be used for service pressures up to 16 bars and supply quantities up to 3000 l/h.



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

DPA-001									
TYPE		Max disch. (l/h)	Max. press. (bar)	Piston number	φ mm	Sealing package number	φ mm	Valve Type	Num.
STEEL DESIGN				Chrome		PTFE			Chrome
02	21/500	21	500	044.02.00.00.03	10	060.02.02.00.00	10	KM-05	300.00.00.00.00
03	31/300	31	300	044.02.00.00.03	12	060.02.02.00.00	12	KM-05	300.00.00.00.00
04	43/200	43	200	044.02.00.00.03	14	060.02.02.00.00	14	KM-05	300.00.00.00.00
06	108/100	108	100	044.02.00.00.03	22	060.02.02.00.00	22	KM-10	301.00.00.00.00
07	200/70	200	70	044.02.00.00.03	30	060.02.02.00.00	30	KM-15	302.00.00.00.00
08	270/50	270	50	044.02.00.00.03	35	060.02.02.00.00	35	KM-15	302.00.00.00.00
10	450/30	450	30	181.02.02.00.00	45	060.02.00.00.01	45	KM-20	303.00.00.00.00
12	670/20	670	20	181.02.02.00.00	55	060.02.02.00.00	55	KM-20	303.00.00.00.00
14	960/13	960	13	181.02.02.00.00	65	191.02.02.00.00	65	KM-25	304.00.00.00.00
16	1250/10	1250	10	191.02.00.00.03	75	191.02.02.00.00	75	VM-32	311.00.00.00.00
17	1600/8	1600	8	191.02.00.00.03	85	191.02.02.00.00	85	VM-32	311.00.00.00.00
18	2000/6	2000	6	191.02.00.00.03	95	191.02.02.00.00	95	VM-40	312.00.00.00.00
19	2500/5	2500	5	191.02.00.00.03	105	191.02.02.00.00	105	VM-40	312.00.00.00.00
20	3000/4	3000	4	191.02.00.00.03	115	191.02.02.00.00	115	VM-50	313.00.00.00.00
PVC DESIGN				Ceramics		PTFE			PVC
12	670/16	50	16	171.02.02.00.07	55	191.02.02.00.00	55	KPS-20	333.00.00.00.00
14	960/13	80	13	195.02.02.00.07	65	191.02.02.00.00	65	VPA-25	340.00.00.00.00
16	1250/10	120	10	194.02.02.00.05	75	191.02.02.00.00	75	VPA-32	341.00.00.00.00
17	1600/8	240	8	196.02.02.00.05	85	191.02.02.00.00	85	VPA-32	341.00.00.00.00
18	2000/6	300	6	197.02.02.00.15	95	191.02.02.00.00	95	VPA-40	342.00.00.00.00
19	2500/5	500	5	198.02.02.00.15	105	191.02.02.00.00	105	VPA-40	342.00.00.00.00
20	3000/4	40	4	199.02.02.00.07	115	191.02.02.00.00	115	VPA-50	343.00.00.00.00

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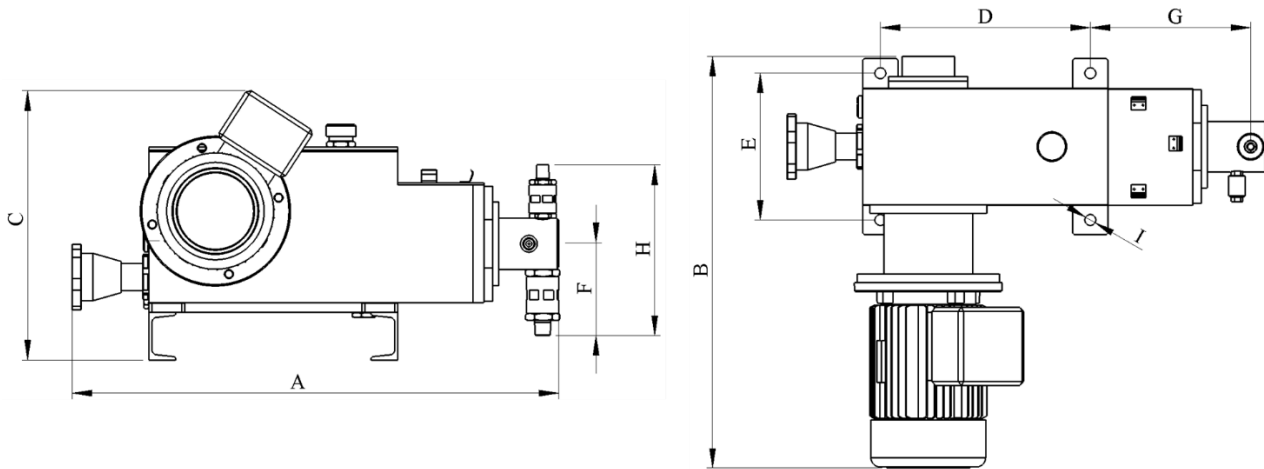
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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



PUMP			DIMENSIONS (mm)									MASS
TYPE	Max. press. (bar)	Max disch. (l)	A	B	C	D	E	F	G	H	I	Kg
21/500	500	21	830	700	375	350	248	197	280	150	17	135
31/300	300	31	830	700	375	350	248	197	280	150	17	135
43/200	200	43	830	700	375	350	248	197	280	150	17	135
108/100	100	108	830	700	375	350	248	197	280	263	17	135
200/70	70	200	830	700	375	350	248	197	280	309	17	140
270/50	50	270	830	700	375	350	248	197	280	309	17	140
450/30	30	450	830	700	375	350	248	197	280	343	17	140
670/20	20	670	830	700	375	350	248	197	280	343	17	140
960/13	13	960	830	700	375	350	248	197	280	343	17	140
1250/10	10	1250	830	700	375	350	248	197	280	392	17	140
1600/8	8	1600	830	700	375	350	248	197	280	392	17	145
2000/6	6	2000	830	700	375	350	248	197	280	398	17	145
2500/5	5	2500	830	700	375	350	248	197	280	398	17	145
3000/4	4	3000	830	700	375	350	248	197	280	398	17	145

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

PLUNGER DOSING PUMPS

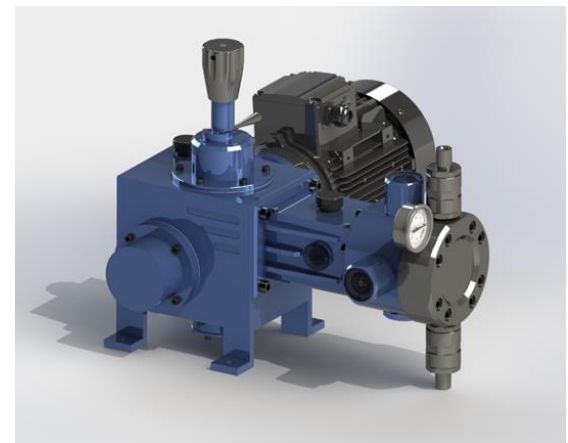
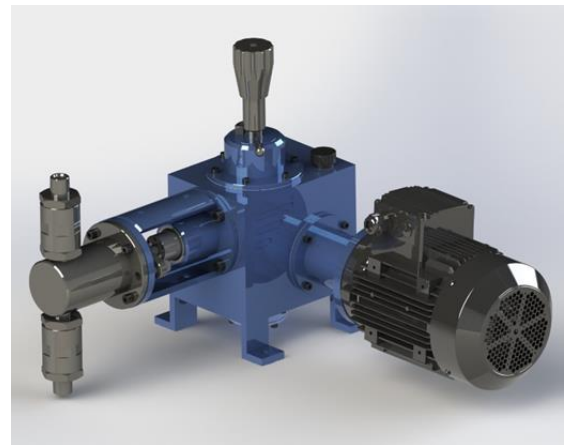
TYPE: DPA-002, DPA-002-2M

The dosing-pump unit DPA-002 is designed for operation in conditions of pressure up to 500 bars and discharge up to 500 l/h, while DPA-002-2M is designed for pressures up to 200 bar and discharge up to 330 l/h. If the unit works in explosive mixture, unit can be equipped with an explosion proof electric motor. Dosing-pump units do not have mobile parts outside the housing, which guarantees operator safety during operation and manipulation of dosing conditions.

Both types are intended for operation in food processing, pharmaceutical, oil and other industry where precise regulation of media dosing is required. The supply regulation is performed by changing the piston stroke length by the regulation screw with vernier divided by 0,25% of maximum supply. The number of strokes is constant.

Piston as well as suction and pressure valve are manufactured in metal or non-metal design depending on the type of media for which the pump is intended for. Pumps from stainless steel are intended for pressures up to 500 bars and supply quantities up to 500 l/h. Pumps manufactured from "PVC" material with a ceramic piston and are intended for aggressive media and can be used for supply quantities up to 500 l/h and maximum pressure of 16 bar.

Hydraulic diaphragm dosing pumps are manufactured with 2 diaphragms and are equipped with diaphragm rupture indication via pressure gauge on pumps head. These types of pumps are used in variety of situations and are applicable in oil/gas production (onshore/offshore), refineries, and the chemical and petrochemical, pharmaceutical, cosmetic and food production industries.



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

DPA-002									
TYPE		Max disch. (l/h)	Max. press. (bar)	Piston number	φ mm	Sealing package number	φ mm	Valve Type	Num.
STEEL DESIGN				Chrome		PTFE			Chrome
01	6/500	6	500	060.02.00.00.01	8	060.02.02.00.00	8	KM-05	300.00.00.00.00
03	14/200	14	200	060.02.00.00.01	12	060.02.02.00.00	12	KM-05	300.00.00.00.00
05	24/125	24	125	060.02.00.00.01	16	060.02.02.00.00	16	KM-05	300.00.00.00.00
06	50/60	50	60	060.02.00.00.01	22	060.02.02.00.00	22	KM-05	300.00.00.00.00
07	80/30	80	30	060.02.00.00.01	30	060.02.02.00.00	30	KM-10	301.00.00.00.00
08	120/20	120	20	060.02.00.00.01	35	060.02.02.00.00	35	KM-10	301.00.00.00.00
09	240/20	240	20	060.02.00.00.01	35	060.02.00.00.01	35	KM-15	301.00.00.00.00
12	300/10	300	10	066.02.02.00.00	55	060.02.02.00.00	55	KM-15	302.00.00.00.00
15	500/4	500	4	066.02.02.00.00	70	060.02.02.00.00	70	KM-20	303.00.00.00.00
07	R 40/30	40	30	060.02.00.00.01	30	060.02.02.00.00	30	KM-10	301.00.00.00.00
08	R 60/20	60	20	060.02.00.00.01	35	060.02.02.00.00	35	KM-10	301.00.00.00.00
12	R 150/10	150	10	066.02.02.00.00	55	060.02.02.00.00	55	KM-15	302.00.00.00.00
15	R 250/4	250	4	066.02.02.00.00	70	060.02.02.00.00	70	KM-20	303.00.00.00.00
PVC DESIGN				Ceramics		PVC			PVC
05	24/16	24	16	066.02.02.00.00.	16	072.02.02.00.00	16	KPS-05	330.00.00.00.00
06	50/16	50	16	066.02.02.00.00.	22	072.02.02.00.00	22	KPS-05	330.00.00.00.00
07	80/16	80	16	066.02.02.00.00.	30	072.02.02.00.00	30	KPS-10	331.00.00.00.00
08	120/16	120	16	066.02.02.00.00.	35	072.02.02.00.00	35	KPS-10	331.00.00.00.00
09	240/20	240	16	060.02.00.00.01	35	060.02.00.00.01	35	KM-15	301.00.00.00.00
12	300/10	300	10	066.02.02.00.00.	55	072.02.02.00.00	55	KPS-15	332.00.00.00.00
15	500/4	500	4	066.02.02.00.00.	70	072.02.02.00.00	70	KPS-20	333.00.00.00.00
07	R 40/16	40	16	066.02.02.00.00.	30	072.02.02.00.00	30	KPS-10	331.00.00.00.00
08	R 60/16	60	16	066.02.02.00.00.	35	072.02.02.00.00	35	KPS-10	331.00.00.00.00
12	R 150/10	150	10	066.02.02.00.00.	55	072.02.02.00.00	55	KPS-15	332.00.00.00.00
15	R 250/4	250	4	066.02.02.00.00.	70	072.02.02.00.00	70	KPS-20	333.00.00.00.00

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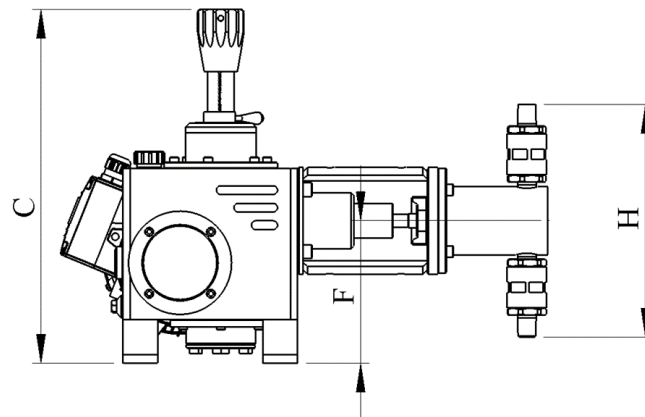
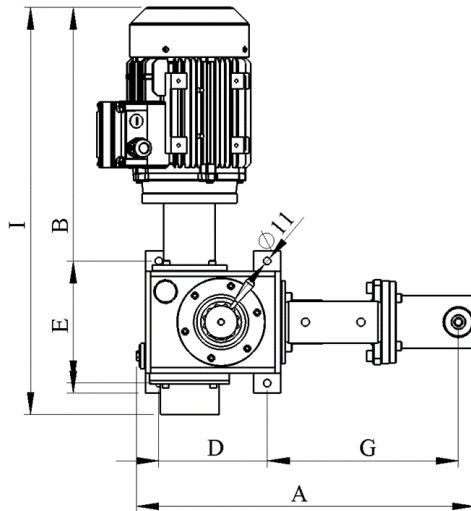
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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



PUMP			DIMENSIONS (mm)									MASS
TYPE	Max. press. (bar)	Max disch. (l)	A	B	C	D	E	F	G	H	I	Kg
6/500	500	6	495	550	415	160	180	163	290	142	565	53
14/200	200	14	495	550	415	160	180	163	290	142	565	53
24/125	125	24	495	550	415	160	180	163	290	142	565	53
50/60	60	50	495	550	415	160	180	163	290	256	565	53
80/30	30	80	495	550	415	160	180	163	290	256	565	53
120/20	20	120	510	550	415	160	180	163	290	256	565	53
300/10	10	300	510	550	415	160	180	163	290	352	565	58
500/4	4	500	510	550	415	160	180	163	290	386	565	58
250/4	4	250	510	550	415	160	180	163	290	386	565	58
150/10	10	150	510	550	415	160	180	163	290	352	565	58
60/20	20	60	510	550	415	160	180	163	290	256	565	53
40/30	30	40	495	550	415	160	180	163	290	256	565	53

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

DPA-002-2M									
TYPE		Max disch. (l/h)	Max. press. (bar)	Piston number	φ mm	Sealing package number	φ mm	Valve Type	Num.
STEEL DESIGN				Chrome		PTFE			Chrome
01	6/200	6	200	060.02.00.00.01.2M	8	060.02.02.00.00.2M	8	KM-05	300.00.00.00.00
02	8/200	8	200	060.02.00.00.01.2M	8	060.02.02.00.00.2M	8	KM-05	300.00.00.00.00
03	14/200	14	200	060.02.00.00.01.2M	12	060.02.02.00.00.2M	12	KM-05	300.00.00.00.00
04	19/200	19	200	060.02.00.00.01.2M	12	060.02.02.00.00.2M	12	KM-05	300.00.00.00.00
05	25/125	25	125	060.02.00.00.01.2M	16	060.02.02.00.00.2M	16	KM-05	300.00.00.00.00
06	34/125	34	125	060.02.00.00.01.2M	16	060.02.02.00.00.2M	16	KM-05	300.00.00.00.00
07	50/60	50	60	060.02.00.00.01.2M	22	060.02.02.00.00.2M	22	KM-05	300.00.00.00.00
08	64/60	64	60	060.02.00.00.01.2M	22	060.02.02.00.00.2M	22	KM-10	301.00.00.00.00
09	90/30	90	30	060.02.00.00.01.2M	30	060.02.02.00.00.2M	30	KM-10	301.00.00.00.00
10	120/30	120	30	060.02.00.00.01.2M	30	060.02.02.00.00.2M	30	KM-10	301.00.00.00.00
11	160/16	160	16	060.02.00.00.01.2M	40	060.02.02.00.00.2M	40	KM-10	301.00.00.00.00
12	214/16	214	16	060.02.00.00.01.2M	40	060.02.02.00.00.2M	40	KM-10	301.00.00.00.00
13	250/10	250	10	060.02.00.00.01.2M	50	060.02.02.00.00.2M	50	KM-15	332.00.00.00.00
14	350/10	330	10	060.02.00.00.01.2M	50	060.02.02.00.00.2M	50	KM-15	332.00.00.00.00

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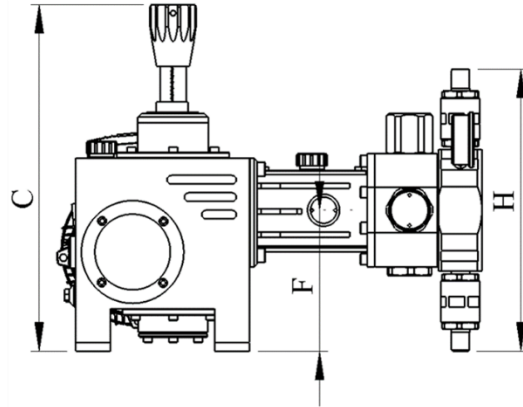
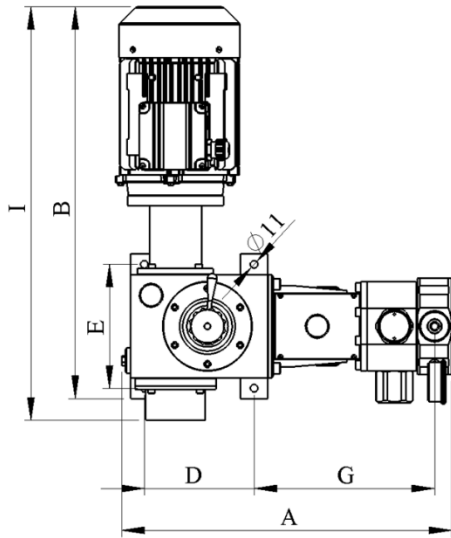
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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



PUMP			DIMENSIONS (mm)									MASS
TYPE	Max. press. (bar)	Max disch. (l)	A	B	C	D	E	F	G	H	I	Kg
6/200	200	6	481	570	415	160	180	162	263	210	601	60
8/200	200	8	481	570	415	160	180	162	263	210	601	60
14/200	200	14	481	570	415	160	180	162	263	210	601	60
19/200	200	19	481	570	415	160	180	162	263	210	601	60
25/125	125	25	481	570	415	160	180	162	263	210	601	60
34/125	125	34	481	570	415	160	180	162	263	210	601	60
50/60	60	50	481	570	415	160	180	162	263	210	601	60
64/60	60	64	481	570	415	160	180	162	263	324	601	60
90/30	30	90	481	570	415	160	180	162	263	324	601	60
120/30	30	120	481	570	415	160	180	162	263	324	601	60
160/16	16	160	481	570	415	160	180	162	263	324	601	60
214/16	16	214	481	570	415	160	180	162	263	324	601	60
250/10	10	250	481	570	415	160	180	162	263	420	601	60
350/10	10	330	481	570	415	160	180	162	263	420	601	60

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

PLUNGER DOSING PUMPS

TYPE: DPA-003, DPA-003-Z

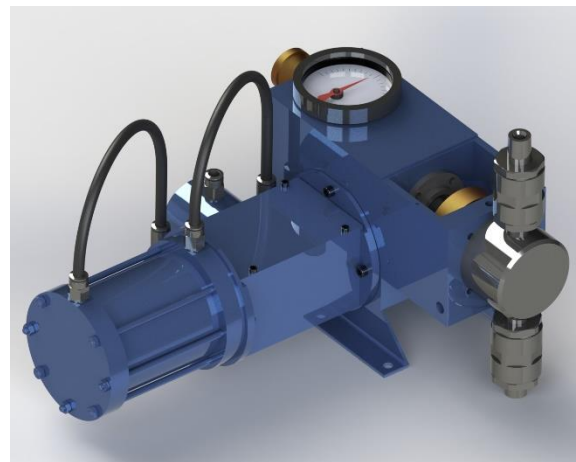
Type	Max pressure	Max discharge (l/h)	Sealing package	
			No.	ϕ mm
3/300	300	3	120.02.00.00.04	8
5/200	200	5	120.02.00.00.04	10
12/70	70	12	120.02.00.00.04	16
20/40	40	20	120.02.00.00.04	22
40/20	20	40	120.02.00.00.04	30
60/10	10	60	120.02.00.00.04	35
80/5	5	80	120.02.00.00.04	40

The dosing-pump unit DPA-003 and DPA-003-Z are designed for operation in conditions of pressure up to 300 bars and discharge up to 80 l/h.

DPA-003-Z is actuated by compressed air while DPA-003 is actuated by electric motor. If the DPA-003 unit works in explosive mixture, the unit can be equipped with an explosion proof electric motor. The dosing pump units do not have mobile parts outside the housing, which guarantees operator safety during operation and manipulation of dosing conditions.

Both types are intended for operation in food processing, pharmaceutical, oil and other industry, where precise regulation of media dosing is required. The supply regulation is performed by changing the piston stroke length by the regulation screw with vernier divided by 0,25% of maximum supply. The number of strokes is constant.

Dosing pumps are equipped with measuring pointer from which the amount [%] of dosing pump discharge can be read.





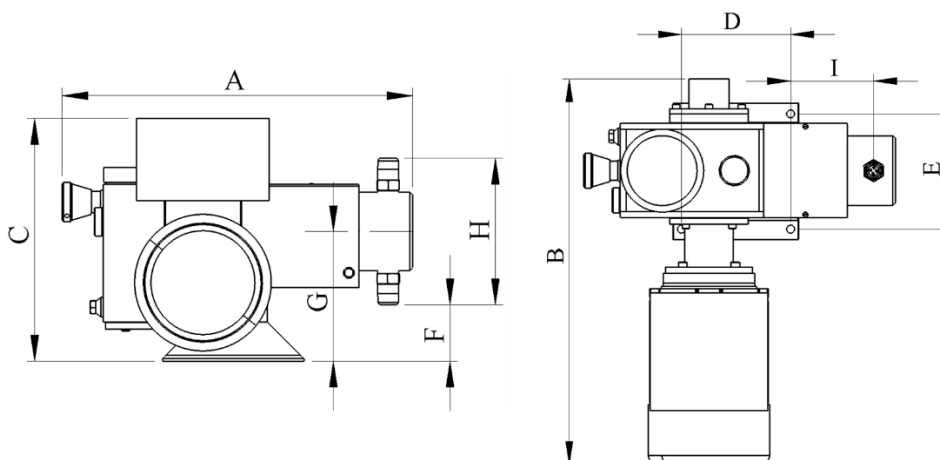
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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



PUMP					DIMENSIONS (mm)										MASS	
DPA-003	Type	Max disch. (l/h)	Max disch. (l/h)	Max. press. (bar)	A	B	C	D	E	F	G	H	I	Kg		
version		-	R	-												
Dosing pump heads	metal	3/300	3	1,5	370	360	200	125	135	60	135	160	110	18		
		5/200	5	2,5												
		12/70	12	6												
		20/40	20	10												
		40/20	40	20												
		60/10	60	30												
	PVC	80/5	80	40	370	360	200	125	135	60	135	160	110	18		
		3/16	3	1,5												
		5/16	5	2,5												
		12/16	12	6												
		20/16	20	10												
	brass	40/16	40	20												
		55/5 M	55	28	500	360	200	125	135	40	135	296	245	18		
		90/3 M	90	45												
		120/2 M	120	60												

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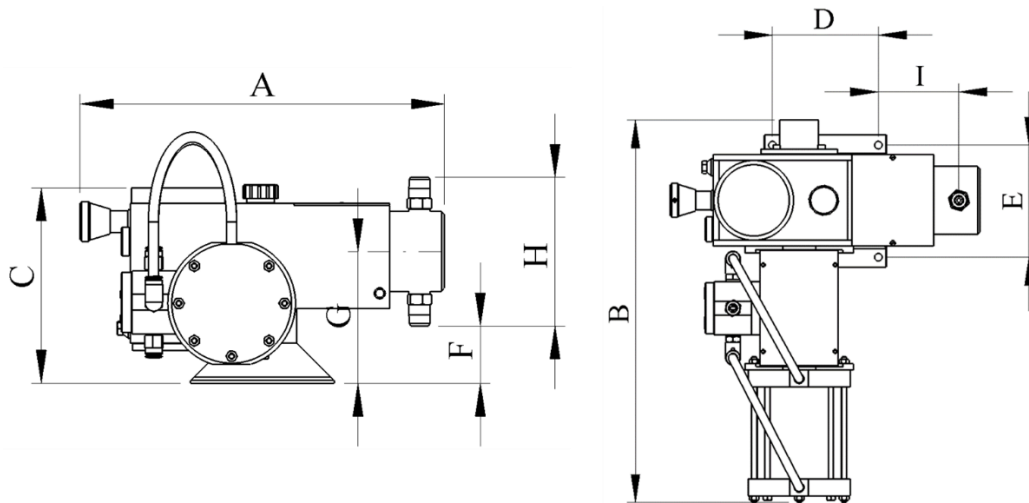
DUWAR d.o.o.

Bjelovarska cesta 18; Koprivnica, Croatia

DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



PUMP					DIMENSIONS (mm)								MASS	
DPA-003	Type	Max disch. (l/h)	Max disch. (l/h)	Max. press. (bar)	A	B	C	D	E	F	G	H	I	Kg
version		-	R	-										
Dosing pump heads	metal	3/300	3	1,5	300									
		5/200	5	2,5	200									
		12/70	12	6	70	370	455	200	125	135	60	135	160	110
		20/40	20	10	40									
		40/20	40	20	20									
		60/10	60	30	10									
	PVC	80/5	80	40	5									
		3/16	3	1,5	16									
		5/16	5	2,5	16									
		12/16	12	6	16	370	455	200	125	135	60	135	160	110
		20/16	20	10	16									
		40/16	40	20	16									
	brass	55/5 M	55	28	5									
		90/3 M	90	45	3	500	455	200	125	135	40	135	296	245
		120/2 M	120	60	2									

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

PLUNGER DOSING PUMPS

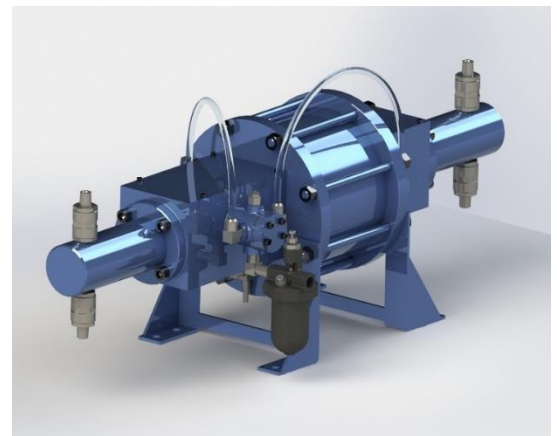
TYPE: PA-50,8; PA-38,1

Type:	Pump						Natural gas		
	Stroke length	Piston diameter	Stroke volume	Max. stroke	Max. Disch. Q	Max pressure	Natural gas consumption		Natural gas operating pressure
	mm	mm	l	min ⁻¹	l/h	bar	Nm ³ /stroke	Nm ³ /h	bar
PA-38,1	120	38,1	0,1386	60	492	450	0,072	260	14
PA-38,1D	120	38,1	0,2736	60	984	450	0,128	460	14
PA-50,8	120	50,8	0,2432	60	875	250	0,064	265	14
PA-50,8D	120	50,8	0,4864	60	1750	250	0,128	470	14

This pump unit is driven by natural gas (gas pump). Pump is composed of a drive cylinder with a piston or two pistons in the "D" configuration of the pump. The drive part (piston, piston rings and connecting rod seals) is lubricated with oil in a dispersed state, which is delivered by the driving natural gas via a gas distributor connected to the lubricator.

The gas inlet should be under 14 bars, and the exhaust into the counterpressure pipe should be up to 2.5 bar. The exhaust gas is not released into the atmosphere, but is sucked in by a compressor and sent for further processing.

This unit is intended for the exploitation of oil and gas, for dosing additives both in the pipe for the transport of crude oil and in the process of primary gas processing. Its major advantage is lack of electric motor, which eliminates the risk of a possible fire.



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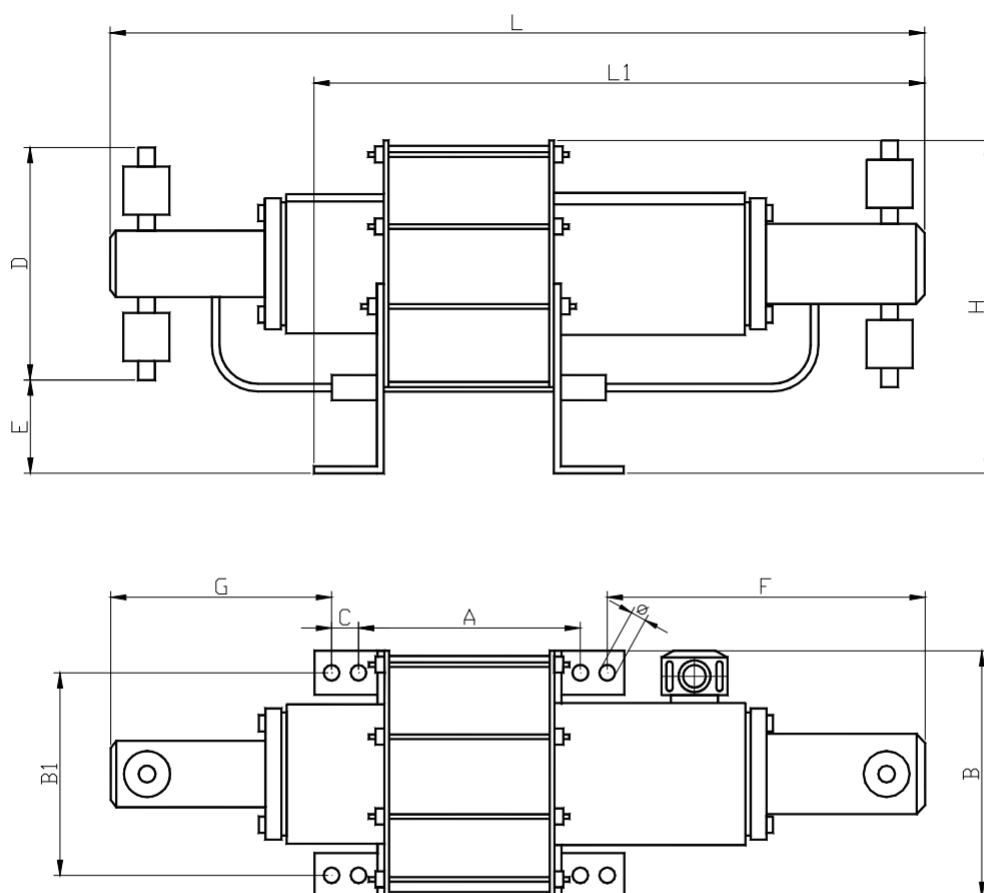
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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



TYPE	DIMENSIONS (mm)											
	A	B	B1	C	D	E	F	G	H	L	L1	φ
38,1D ; 50,8D	430	350	275	78	295	97	420	423	420	1316	-	17
38,1 ; 50,8	430	350	275	78	295	97	420	423	420	-	893	17

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

MANUAL HYDRAULIC PUMP

TYPE: RHP-350

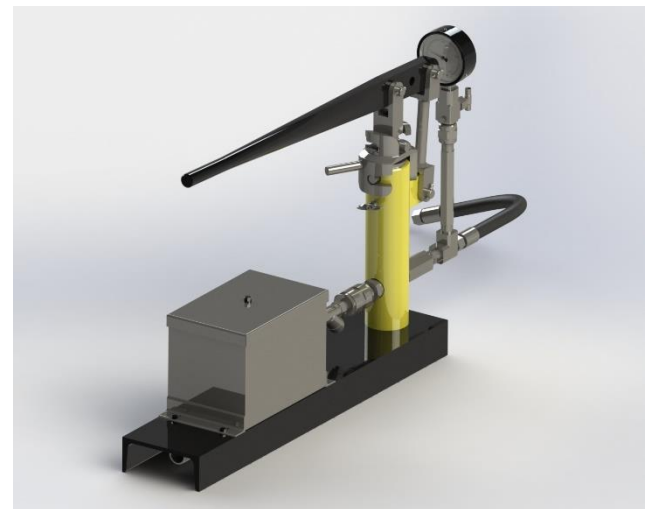
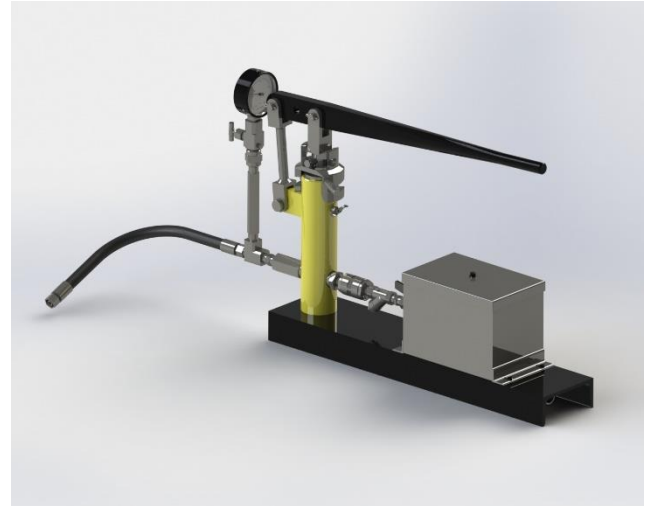
The portable hydraulic pump is designed to achieve high pressures up to 350 bar and is used for all low-pressure and high-pressure tests in workshops, laboratories, oil fields, for testing fittings, pipelines, pressure vessels, tubing, casing and other operations where high pressure is needed.

The pump is simple and robust, easy to operate and maintain. It uses water or hydraulic oil as the working medium. Main parts of the pump are high- and low-pressure cylinders, non-return valve, filter, manometer and high-pressure pipe.

The high-pressure piston is located concentrically in the low-pressure piston. Turning the handle by 90° enables simultaneous operation of both pistons up to a pressure of approximately 190 bar with a capacity of 0.113 l / stroke, that is, operation of a high-pressure piston up to 350 bar with a capacity of 0.030 l / stroke.

Working medium is sucked from a tank with a volume of 10 liters, through a ball valve, filter and non-return valve. The pressure side of the pump is equipped with a non-return valve, a manometer with an operating range of up to 600 bars, a manometer valve and a flexible high-pressure hose. The connection on the pressure side is 1/2 "NPT male.

The pump unit parts are made of structural steel or stainless steel.



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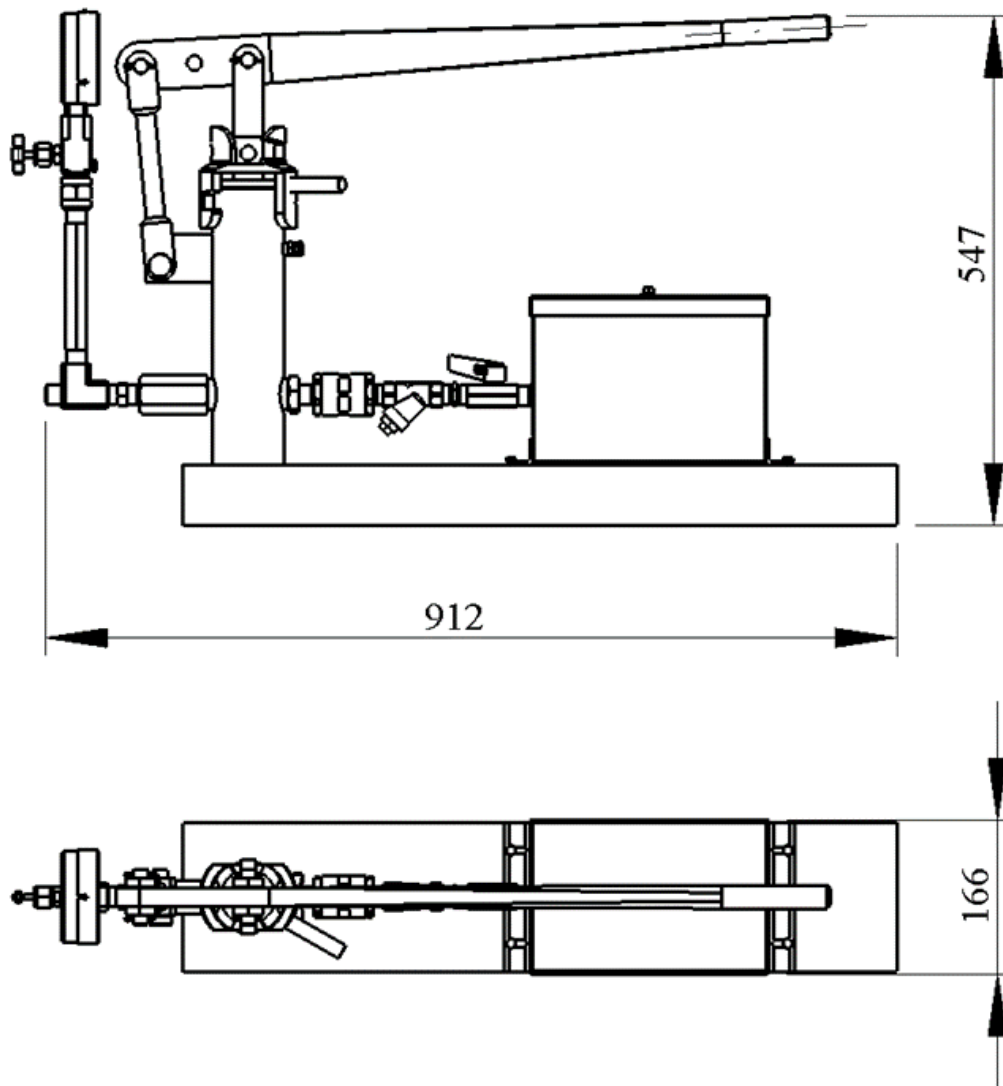
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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

TRIPLEX PLUNGER PUMP

TYPE: LKP-003



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

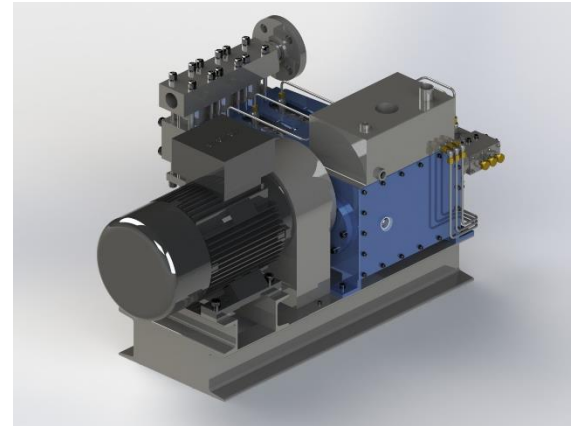
TRIPLEX PLUNGER PUMP

TYPE: LKP-003

The three-piston line pump is intended to be built in machines where constant supply of pressures from 0 to 180 bars is required. Therefore, this pump is applied in machines for hot and cold washing, for washing industrial production lines and desalinators (marine and outboard production).

The three-piston line pump consists of a driving mechanism and a hydraulic part. The driving mechanism is situated in a welded casing. The casing is rigid enough to carry the shaft with excentres and crossheads with connecting rods. Combined lubrication with oil raising rings ensures long life of the bearings and crossheads.

The hydraulic part (head, piston, valves) can be made made of the head of pig iron, bronze or stainless steel, depending on the type of medium. Pistons are made of stainless steel whose working surface is coated by hard chrome or ceramics, while the valves are made of stainless steel. The pump can be driven by belt drive or flexible coupling directly connected to the driving electric motor.



Type	LKP-13/180	LKP-20/120	LKP-20/40	LKP-42/60	LKP-84/60	LKP-140/50
Supply [l/h]	960	1200	1200	2500	5000	8000
Pressure [bar]	180	120	40	60	60	50
Power [kW]	4	4	4	4	7,5	11

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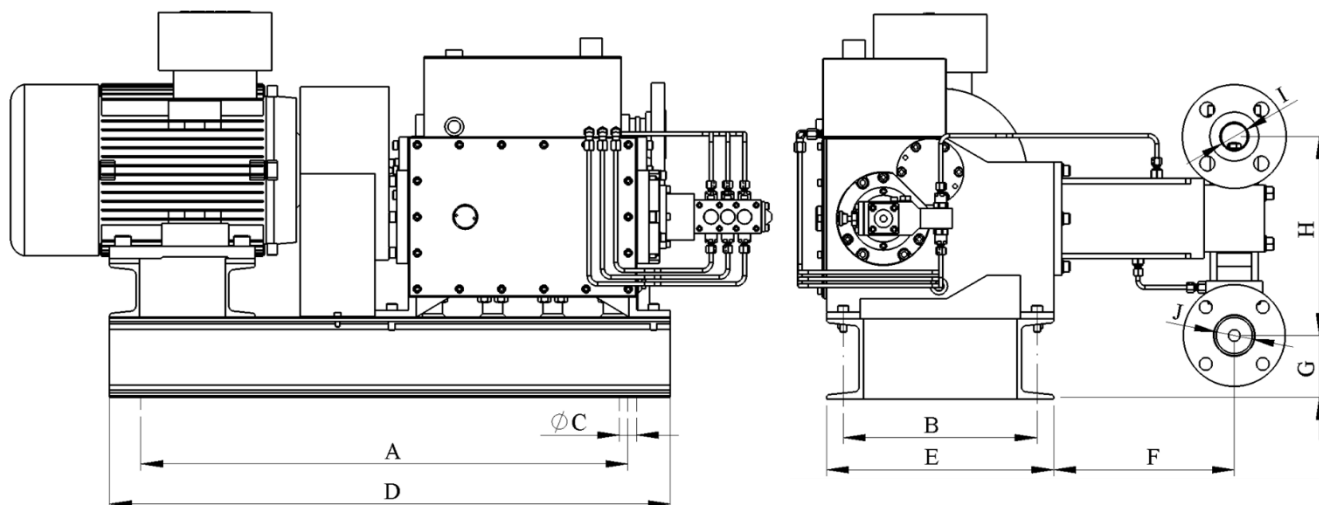
DUWAR d.o.o.

Bjelovarska cesta 18; Koprivnica, Croatia

DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE



PUMP			DIMENSIONS (mm)									
TYPE	Max. press. (bar)	Max disch. (l/h)	A	B	C	D	E	F	G	H	I	J
1500/60	60	1500	750	280	12	860	320	240	135	190	1"	1½"
8000/35	35	8000	820	290	12	1000	340	295	75	300	1½"	2"

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

DOSING UNIT PROGRAM

DUWAR d.o.o. Koprivnica, based on market research, has developed a range Dosing-pump unit that meet the needs of dosing liquid equilibria in the quantities of supply 3000 l / h per unit, and work in the regimes of pressures up to 500 bars. Pumps as an integral part of Dosing-pump units are made from materials selected to meet the chemical and mechanical requirements for certain liquid dosage and temperature limits of -20 to +150 C.



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

TRIETHYLENE GLYCOL INJECTION PACKAGE UNIT



This device has been developed to achieve the simple triethylene glycol usage. It represents an independent type unit with quick mounting ability. The dosing-system has its own steel carrier as well as all the other required attachments on the carrier rim. This enables easy mounting at place where used and it can start operating in a very short period of time.

The basis of the corrosion inhibitor injection package unit is constructed of two dosing pump units type DPA-002-14/200 driven by „S“ construction electromotors of $N=0,55$ kW power and dosing-pump units type DPA-001-21/500 driven by „S“ construction electromotors of $N=2,2$ kW power.

There is also a 2500 l tank on the carrier, which does not have only water level showing glass but also oil opening, drainage opening, breathing valve DN 80, magnetic level switch (type SMK – 4), ultrasonic level transmitter, thermostat, safety thermostat and electrical heater.

The tank is thermally isolated with 50 mm polyurethane and protected with A1 sheet metal in order to lessen the media heating from the surrounding atmosphere.



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

ADDITIVE INJECTION UNIT

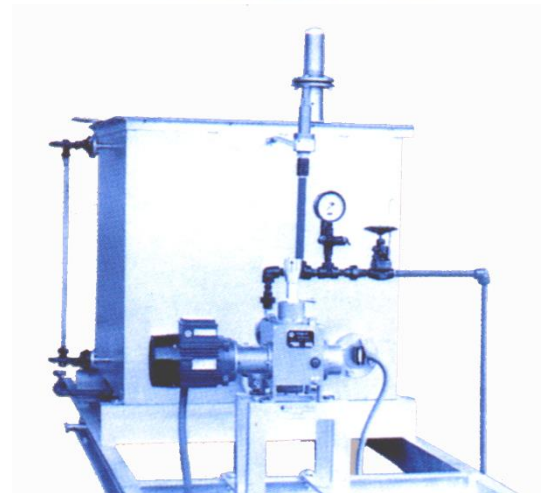
This unit is situated in safety housing-container, and it consists of a dosing-pump unit, tank for dosed fluid, suction-pressure fittings, cubicle, electric installations and electric radiator for heating inside the container, electric heaters with thermo-static control for fluid temperature regulation.

The fluid tank may be equipped with propeller mixer, if required. This machine is intended for additive dosing at oil drill holes. Apart from this, the dosing unit may be used for dosing in water treatment, etc.

At request, the dosing may be controlled as follows:

- to continuously dose the previously set flow,
- to continuously dose the variable flow and the control through the control block which transmits the accepted variable data on flow requirements through the servo-mechanism into the change of dosing volume,
- for batch dosing (discontinuous) with set batch volume and set (time intervals) stop between two batches.

Other combinations are possible on request. The dosing unit may dose aggressive fluids under the condition that no abrasive ingredients are present.



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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

FUEL TREATMENT DOSING UNIT

The fuel treatment dosing unit type TO-4-002 is designed for automatic fuel treatment by simultaneous dosing of 4 additives into the fuel at the place where car cisterns are being filled.

This type of dosing unit represents an independent unit and is designed to achieve simple usage, quick assembly and simple operation.

The fuel treatment dosing unit consists of a steel holder and required attachment units which enables simple and quick assembly and putting into operation.

The basis of the fuel treatment dosing unit consists of 4 dosing-pump units driven by an electric-motor of 3 kW in «S» performance.

Dosing unit consist of container with multiple chambers and dosing pumps on the holder are split into 4 separate units of 1000,320,120,120 liters capacity respectively.

Each dosing unit is equipped with level-indicating glass, an oil connection unit, drainage opening air-valve and suction armature.



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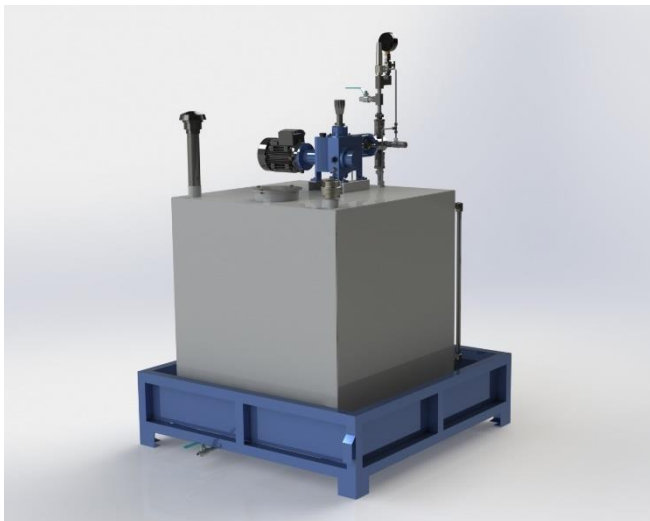
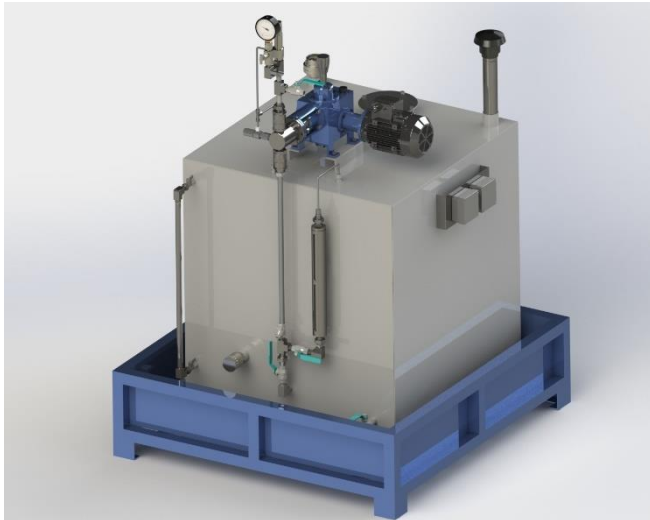
Bjelovarska cesta 18; Koprivnica, Croatia

DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

FUEL TREATMENT DOSING UNIT



The fuel treatment dosing unit type DU-1000-002 -1K is designed for automatic fuel treatment by dosing of one additive into the fuel at the place where car cisterns are being filled.

This type of dosing unit represents an independent unit and is designed to achieve simple usage, quick assembly and simple operation.

The fuel treatment dosing unit consists of a steel holder, which also serves as leak drainage tank, pump unit DPA-002 with ATEX certified el. motor, 1000l reservoir and required attachment units which enables simple and quick assembly and putting into operation.

Each dosing unit is also equipped with level-indicating glass, calibration pot, Y filter, low-level switch, safety valve, end of the line flame arrestor, manometer for pressure reading, suction and pressure armature.

By adding low-level switch, dry pump operation is prevented.

Dosing unit DU-1000-002 -1K also comes with junction box which connects el. motor and low-level switch.

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DOSING SYSTEMS

HIGH PRESSURE VALVES

HIGH PRESSURE ARMATURE

DOSING AND PLUNGER PUMP CERTIFICATES

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DUWAR d.o.o.

Bjelovarska cesta 18, 48000 Koprivnica, Croatia

Bureau Veritas Certification certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 29001:2011

Scope of certification

**DESIGN, MANUFACTURE, INSTALLATION, SALES, SERVICING
AND MAINTENANCE OF DOSING PUMP UNIT AND DOSING
SYSTEM WITH APPERTAINING FITTINGS.**

Original cycle start date:	06-04-2017
Expiry date of previous cycle:	10-10-2020
Certification/Recertification Audit date:	16-09-2020
Certification/Recertification cycle start date:	07-10-2020
Subject to the continued satisfactory operation of the organisation's Management System, this certificate expires on:	10-10-2023

Certificate No. **HR007824**

Version: 01

Revision date: 07-10-2020

Local office: Ciottina 17A, 51000 Rijeka, Croatia

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.
To check this certificate validity please call: 00 385 51 213 672



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Bureau Veritas Certification

DUWAR d.o.o.

Bjelovarska cesta 18, 44000 Koprivnica, Croatia

Bureau Veritas Certification certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 9001:2015

Scope of certification

**DESIGN, MANUFACTURE, INSTALLATION, SALES, SERVICING AND MAINTENANCE
OF DOSING PUMP UNIT AND DOSING SYSTEM WITH APPERTAINING FITTINGS.**

Original Cycle Start Date: 11-10-2014

Expiry Date of Previous Cycle: 10-10-2020

Certification / Recertification Audit Date: 16-09-2020

Certification / Recertification Cycle Start Date: 07-10-2020

Subject to the continued satisfactory operation of the organization's
Management System, this certificate expires on: 10-10-2023

Certificate No.: HR007823

Version: 1

Issue Date: 07-10-2020

Local Office: Ciottina 17a, 51000 Rijeka, Croatia

17021·HAA



QMS

4184

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation. To check this certificate validity please call: 00 385 51 213 672.





[1] **ACKNOWLEDGEMENT ON THE DEPOSIT OF TECHNICAL FILE**

[2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] Acknowledgement Number: **FIDI 19 ATEX D066**

[4] Product: **Piston pump LKP-003**

Technical File Number: **ATEX-LKP003**

Technical File Date: **04.12.2019.**

[5] Manufacturer: **DUWAR d.o.o., Bjelovarska cesta 18, 48000 Koprivnica, Croatia**

[6] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26th February 2014, herewith acknowledges the deposit of technical file as received from the manufacturer.

[7] Products listed in article 13 Clause 1 b ii) of the Directive, for which the acknowledgement on the deposit of technical file is issued, and for which the procedure for Internal Production Control has been applied (Annex VIII of the Directive), can be freely put on the EU market if the equipment is supplied with the EU Declaration of Conformity (or Attestation of Conformity for components) and are marked in compliance with applicable EU Directives.

[8] FIDITAS Ltd. does not perform any check of the technical file received from the manufacturer.

[9] According to the Directive, the technical file is deposited for the minimum of ten years from the date when the last manufactured piece of product has been put on the market. In case that a manufacturer's written confirmation for extension of the period for the deposit of this technical file is missing, FIDITAS Ltd. will hold this technical file in its archive for **15** years, starting from the date this acknowledgement is issued (until **10.12.2034.**).

[10] With the deposit of this technical file for the above noted period, the manufacturer has fulfilled requirements of Annex VIII of the Directive for non-electrical equipment of Category 2 and has the right to put this product on the market until **10.12.2024.**

Our ref.: 19.CRT.199

Date: 10.12.2019.

FIDITAS Ltd.
Certification department

Approved:

Stipo Đerek, dipl.ing.el.



Fiditas d.o.o.
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Directive 2014/34/EU

Equipment and protective systems intended for use in potentially explosive atmospheres



CONFIRMATION

SIQ 19 ATEX H 131

according to Article 13 point (1) b) ii)
of retention of documentation according to Annex VIII, paragraph 2

Manufacturer: DUWAR d.o.o.

Address: Bjelovarska cesta 18, 48000 Koprivnica, Croatia

Notified Body No. 1304 according to Article 21 of the Directive 2014/34/EU of the European Parliament and the Council dated 26. February 2014, hereby acknowledges the receipt and retention of the following documentation, received on 6. March 2019:

"Tehnička dokumentacija, Plinska pumpa - PA, tipi: PA-38,1, PA-38,1D, PA-50,8 i PA-50,8D".

The correctness and completeness of the documentation has not been verified. The dossier will be retained for the period of 10 years from the receipt date. If the manufacturer wants the dossier to be retained by SIQ Ljubljana for a longer period of time, SIQ Ljubljana should be notified of that in due time.

Confirmed by:

Andrej Lukšič

Ljubljana, 6. March 2019



[1] **ACKNOWLEDGEMENT ON THE DEPOSIT OF TECHNICAL FILE**

[2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] Acknowledgement Number: **FIDI 19 ATEX D063**

[4] Product: **Dosing piston pump DPA-001**

Technical File Number: **ATEX-DPA001**

Technical File Date: **04.12.2019.**

[5] Manufacturer: **DUWAR d.o.o., Bjelovarska cesta 18, 48000 Koprivnica, Croatia**

[6] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26th February 2014, herewith acknowledges the deposit of technical file as received from the manufacturer.

[7] Products listed in article 13 Clause 1 b ii) of the Directive, for which the acknowledgement on the deposit of technical file is issued, and for which the procedure for Internal Production Control has been applied (Annex VIII of the Directive), can be freely put on the EU market if the equipment is supplied with the EU Declaration of Conformity (or Attestation of Conformity for components) and are marked in compliance with applicable EU Directives.

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[10] With the deposit of this technical file for the above noted period, the manufacturer has fulfilled requirements of Annex VIII of the Directive for non-electrical equipment of Category 2 and has the right to put this product on the market until **10.12.2024.**

Our ref.: 19.CRT.199

Date: 10.12.2019.

FIDITAS Ltd.
Certification department
Approved:


Stipo Đerek, dipl.ing.el.



[1] **ACKNOWLEDGEMENT ON THE DEPOSIT OF TECHNICAL FILE**


- [2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.
- [3] Acknowledgement Number: **FIDI 19 ATEX D064**
- [4] Product: **Dosing piston pump DPA-002**
- Technical File Number: **ATEX-DPA002**
- Technical File Date: **04.12.2019.**
- [5] Manufacturer: **DUWAR d.o.o., Bjelovarska cesta 18, 48000 Koprivnica, Croatia**
- [6] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26th February 2014, herewith acknowledges the deposit of technical file as received from the manufacturer.
- [7] Products listed in article 13 Clause 1 b ii) of the Directive, for which the acknowledgement on the deposit of technical file is issued, and for which the procedure for Internal Production Control has been applied (Annex VIII of the Directive), can be freely put on the EU market if the equipment is supplied with the EU Declaration of Conformity (or Attestation of Conformity for components) and are marked in compliance with applicable EU Directives.
- [8] FIDITAS Ltd. does not perform any check of the technical file received from the manufacturer.
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- [10] With the deposit of this technical file for the above noted period, the manufacturer has fulfilled requirements of Annex VIII of the Directive for non-electrical equipment of Category 2 and has the right to put this product on the market until **10.12.2024.**

Our ref.: 19.CRT.199

Date: 10.12.2019.

FIDITAS Ltd.
Certification department

Approved:


Stipo Đerek, dipl.ing.el.



Fiditas d.o.o.
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[1] **ACKNOWLEDGEMENT ON THE DEPOSIT OF TECHNICAL FILE**

[2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] Acknowledgement Number: **FIDI 19 ATEX D065**

[4] Product: **Dosing piston pump DPA-003**

Technical File Number: **ATEX-DPA003**

Technical File Date: **04.12.2019.**

[5] Manufacturer: **DUWAR d.o.o., Bjelovarska cesta 18, 48000 Koprivnica, Croatia**

[6] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26th February 2014, herewith acknowledges the deposit of technical file as received from the manufacturer.

[7] Products listed in article 13 Clause 1 b ii) of the Directive, for which the acknowledgement on the deposit of technical file is issued, and for which the procedure for Internal Production Control has been applied (Annex VIII of the Directive), can be freely put on the EU market if the equipment is supplied with the EU Declaration of Conformity (or Attestation of Conformity for components) and are marked in compliance with applicable EU Directives.

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Our ref.: 19.CRT.199

Date: 10.12.2019.

FIDITAS Ltd.
Certification department

Approved:


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[1] **ACKNOWLEDGEMENT ON THE DEPOSIT OF TECHNICAL FILE**

[2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] Acknowledgement Number: **FIDI 19 ATEX D066**

[4] Product: **Piston pump LKP-003**

Technical File Number: **ATEX-LKP003**

Technical File Date: **04.12.2019.**

[5] Manufacturer: **DUWAR d.o.o., Bjelovarska cesta 18, 48000 Koprivnica, Croatia**

[6] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26th February 2014, herewith acknowledges the deposit of technical file as received from the manufacturer.

[7] Products listed in article 13 Clause 1 b ii) of the Directive, for which the acknowledgement on the deposit of technical file is issued, and for which the procedure for Internal Production Control has been applied (Annex VIII of the Directive), can be freely put on the EU market if the equipment is supplied with the EU Declaration of Conformity (or Attestation of Conformity for components) and are marked in compliance with applicable EU Directives.

[8] FIDITAS Ltd. does not perform any check of the technical file received from the manufacturer.

[9] According to the Directive, the technical file is deposited for the minimum of ten years from the date when the last manufactured piece of product has been put on the market. In case that a manufacturer's written confirmation for extension of the period for the deposit of this technical file is missing, FIDITAS Ltd. will hold this technical file in its archive for **15** years, starting from the date this acknowledgement is issued (until **10.12.2034.**).

[10] With the deposit of this technical file for the above noted period, the manufacturer has fulfilled requirements of Annex VIII of the Directive for non-electrical equipment of Category 2 and has the right to put this product on the market until **10.12.2024.**

Our ref.: 19.CRT.199

Date: 10.12.2019.

FIDITAS Ltd.
Certification department

Approved:

Stipo Đerek, dipl.ing.el.



Fiditas d.o.o.
ZAGREB