

USER MANUAL SELENE (PDA)



EHE CE

DEALER

for Maintenance date of commissioning:

position / system reference:

service:

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IDENTIFICATION CODE

rango	model				connection							
range	mot	chambers			ATEX		diaphragm	0	-ring	tipe		
	□ 75	(3/4")		WR	GFR-PP	□ X	• H	keyflex®	□ N	(NBR)	□ G	filetto BSP
	□ 100	(1")		FC	CF+PVDF	□ X	□ M	santoprene®	🗆 V	(FKM)		
	□ 150	(1 1/2")		DF	PVDF		🗆 D	EPDM	• E	(EPDM)		
	□ 200	(2")		AL	alluminio	□ X	🗆 N	NBR	🗆 T	(PTFE)		
PDA				SS	AISI 316	□ X	🗆 U	poliuretano	□ 0	(no o-ring)		
				0.0			n HT	Keyflex [®] + PTFE				
				SP	polished AISI 316		□ MT	santoprene®+ PTFE				
							0 T	PTFE				

Each damper is supplied with the serial and model abbreviation and the serial number on the rating plate, which is riveted onto the support side. Check these data upon receiving the goods. Any discrepancy between the order and the delivery must be communicated immediately.

In order to be able to trace data and information, the abbreviation, model and serial number of the pump must be quoted in all correspondence.





LEGEND

note	ref.	pos.	os. Description	Q.ty	Disassembling steps sequence													
					1	2	3	4	5	6	7	8	9	10	11	12	ĺ	
					İ		İ	İ								İ		
					İ	İ		İ										
	910.1	1	connections dampener casing	1	•													
	102.1	2	Air side casing	1		•												
	135.1	3	Wet side diaphragm	1			•											
	102.2	4	Wet side casing	1		•												
	412.1	5	O-ring	1		•												
	412.2	6.a	O-ring	1			•											
	135.2	6.b	Air side diaphragm	1			•											
	514	7	Anello di battuta	1			•											
	910.2	8		1			-	•										
	488	9	Air side cap	1					•									
	260.1	10	Wet side cap	1				-	•									
	182	11	Base (optional for 150)	2		•		-	-	-								
	412.3	12	O-ring	2				•						-				
	112.0	13	Adaptor fitting	2			•											
	910.3	14	connection wet side casing / adaptor fitting	2	•													
	0.010																	
			Pneumatic valve															
	675	20	Valve body	1	•													
	412.4	21	O-ring	1				•										
	412.5	22	O-ring	2				•										
	210	23	Probe	1			•											
	260.2	24	probe cap	1		•												
	İ				ĺ											İ	ĺ	
	ĺ	İ		İ											Ì	İ	ĺ	
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GENERAL NOTES

The"PDA" dampeners are accessories for the AODD pump and have used for dampen the variations in flow and pressure in the AODD pump discharge.

The dampener performances (flow rate, head, and minimum pressure) are decided in the ordering phase and indicated on the nameplate

Make sure that the physical-chemical characteristics of the fluid have been correctly evaluated

The maximum temperature referred to water in continuous operation depends on the version of the materials (indicated on the nameplate) and on the environment in which the pump will be installed:

	MAX Temperature (°C / °F)	MAX Temperature (°C / °F)
version	Zone 1 (atex)	Zone 2 (atex)
WR	60°C / 140°F	60°C /140°F
FC	80°C / 176°F	90°C / 194°F
DF	NA	90°C / 194°F
SS	80°C / 176°F	95°C / 203°F
AL	80°C / 176°F	95°C / 203°F
SP	80°C / 176°F	95°C / 203°F

The ambient temperature interval is related to the choice of materials (specified on the identification plate):

Version	MAX ΔT (°C / °F)
WR	0÷40°C / 14÷104°F
FC	0÷40°C / 14÷104°F
DF	0÷40°C / 14÷104°F
SS	0÷40°C / 14÷104°F
AL	0÷40°C / 14÷104°F
SP	0÷40°C / 14÷104°F

OPERATING PRINCIPLE

The damper consists of two chambers separated by diaphragm. A chamber is connected to the pump outlet and the second is charged or discharged of air.

The pressure that the pumped liquid exerts on the wet side of the diaphragm deforms the same. This deformation moves a probe that control the pneumatic valve that charging or discharging air as a function of the position assumed by the probe. The head frequency and capacity are automatically adjusted without any intervention or set up according to the actual product circuit requirements



INSTALLATION AND USE INSTRUCTIONS

TRANSPORT

- cover the hydraulic connections
- lift the hydraulic plastic parts without mechanical stress
- · for transport on irregular roads, cushion the bumps with suitable support plane
- blows and impacts may damage parts that are important for the machine operation and safety

STORAGE INSTRUCTIONS

- When is necessari to store the dampeners before installation don't remove it from the original packaged. The packaged dampeners must be stored lifted from ground level, the ambient must be close, clean and dry.
- If at the receipt of the dampeners package seems damaged is necessary to free the dumpner in order to check its integry and to store a new package
- The place where the dampeners is stored must be closed with an ambient temperature not lower than -5°C and not higher than 40°C, the air humidity rate not higher than 80%, the package dampeners mustn't received shock, vibrations and loads rising above.

INSTALLATION

- clean the plant before connecting the pump and dampener
- make sure that no foreign bodies are left in the dampener. Remove safety caps on the hydraulic connections.
- make sure that all of the dampener's screws are well tightened
- · position and secure the dampener horizontally
- place the pump and the dampener nearest at the suction point
- only fittings with cylindrical gas threads in materials compatible with both the fluid to be pumped and the dampener's construction materials must be used for the connections to the dampener's collectors
- pneumatic supply to the dampener must be made using filtered, died and not lubricated oil free at a pressure of not less than 2 bars and not more than 7 bars.
- can use the same pneumatic supply of the pump

follow the instructions indicated in the following diagram:

1. YES: use flexible pipes reinforced with rigid spiral to connect the hydraulic circuit of the pump. Rigid piping may cause strong vibrations and manifolds breaking. Do not use pipes with nominal diameter smaller than the diameter of the pump connections. For negative installations and/or viscous fluids use pipes with greater diameter related to the nominal diameter of the pump

2. YES: install and connect the pipe downstream from the pulsation dampener. Its diameter must never be smaller than the connection. The pipe downstream from the dampener can be rigid and made from material compatible with the fluid to be pumped

3. YES: pipe for safety discharge; if the diaphragms are completely torn, the fluid may enter the air circuit damage it, and be discharged through the exhaust port. It is therefore necessary that the air exhaust be conveyed by pipes into a piping reaching a safe area

4. YES: pipe anchoring; the piping must be sufficiently strong to avoid deformation and must never weigh down on the dampener in any way or viceversa

5. YES: shut-off valve of the same diameter as the pump inlet (never smaller) to intercept the fluid correctly in case of spills and/or when servicing the pump

- 6. YES: horizzontal place
- 7. NO: vertical place

8. YES: carry out effective grounding using a suitable size of cable on each pump casing to discharge static currents

- 9. YES: dampener anchoring
- 10.YES: trap

11.YES: pressure regulator with gauge

12.YES: check valves on the air supply piping to prevent the pumped liquid from entering the pneumatic circuit if the diaphragms are broken is forbidden

- 13.YES: three-way valve for stop the dampener
- 14.YES: flow regulator
- ensure drainage of fluids which may come out of the dampener
- fix the dampener avoid that the pipe weight down up it
- arrange for enough room around the dampener for the movements of an operator
- inform about the presence of aggressive fluid with suitable coloured labels in accordance with the related standard





- do not install the dampener (built with thermoplastic material) near heat sources
- do not install the dampener in places with risk of fall of solids or fluids
- do not install the dampener close to fixed workplaces or visited areas
- install additional protection shield, for the pump or for the persons as appropriate. If the diaphragm breaks the fluid may enter into the pneumatic circuit and come out from the pump discharge port
- if the dampener is made from conductive materials and is suitable for flammable products, each casing must be equipped with a suitable earthing cable: DANGER OF EXPLOSION AND/OR FIRE
- WARNING: The dampener must always be grounded irrespective of any organ to which they are connected. Lack
 of grounding or incorrect grounding will cancel the requirements for safety and protection against the risk of explosion

For installation and use in a potentially explosive enviroment, comply with these general precautions:

ascertain that the dampener is full

- ascertain that the fluid treated does not contain or cannot contain large solids or solids for a dangerous shape
- ensure that the intake or delivery ports are not obstructed
- also ascertain that the connection piping is strong enough and cannot be deformed by the dampener's weight or by the intake. Also check that the dampener is not burdened by the weight of the piping
- if the dampener is to stay in disuse for a long period of time, clean it carefully by running a non-flammable liquid detergentthrough it that is compatible with the dampener's construction materials
- if the dampener was turned off for a long period of time, circulate clean water in it for some minutes to avoid incrustations
- WARNING: The use of dampeners for flammable liquids
- is forbidden if they are made of non-conductive
- materials that charge statically (plastic materials) and without suitable grounding DANGER OF EXPLOSION CAU-SED BY STATIC CHARGES

START UP

- check the correct execution of what indicated in the INSTALLATION paragraph
- check that the intake and delivery pipes of the hydraulic circuit are correctly connected
- · open the intake and delivery valves of the pump hydraulic circuit
- open the 3-way valve on the air circuit
- set the operation point requested for the pump: properly adjust the air pressure and delivery that supplies the pump. With pressure values under 2 bar the pump may stall, with pressure values above 7 bar it is possible that breakdowns and/or yields may occur with consequent spillage of the pumped fluid
- for pumps with split manifold the two pumped fluids must have the same viscosity value, very different viscosity values may lead to stall problems and/or diaphragms breaking
- do not operate at the limits of the operation curves: the maximum head or maximum delivery (total absence of leaks and intake height in the delivery circuit)
- check that there are no anomalous vibrations or noise due to the too elastic support structure, unsuitable fastening
 or cavitation
- after 2 hours of operation stop the pump correctly and check the tightening of all the bolts on the dampener

WARNING: never start the dampener with the product valves closed: danger of diaphragm breakage

USE

- · do not operate valves or shunts during the pump operation
- risk of harmful water hammers in case of incorrect or sudden operations (valves must be operated only by trained personnel)
- empty and wash accurately inside the dampener in case different fluids must be pumped
- insulate or empty the dampener if the fluid crystallization temperature is equal to or below the ambient temperature re
- stop the pump if the fluid temperature exceeds the maximum allowed temperature indicated in the GENERAL NO-TES; if the exceeding temperature is about 20% it is necessary to inspect the status of the internal parts
- stop the pump and close the valves in case of leaks
- wash with water only if chemical compatibility allows it ; alternatively use the suitable solvent that does not generate hazardous exothermic reactions
- consult the fluid supplier to decide the most suitable fire-prevention method
- empty the dampener in case of long periods of disuse (particularly with fluids which are particularly tending to crystallize)
- · check that there is no gas in the delivering fluid, if there is stop the pump

WARNING: never stop the dampener and the pump when it is running and/or when the pneumatic circuit is under pressure by closing the intake and/or delivery valves on the fluid circuit: danger of premature wear and/or breakage of the diaphragm

STOP

• To stop the pump and dampener, operate exclusively on the air supply closing the 3-way valve, discharging in this way residual pressure from the pneumatic system of the pump.

WARNING never stop the pump and dampener by totally closing the suction and/or delivery valves of the hydraulic circuit

MAINTENANCE

- all the operation must be carried out by qualified personnel
- do not carryout maintenance and/or repairs with the air circuit under pressure; only the air supply must be used to stop the dampener by closing the three-way valve to discharge any residual pressure from the dampener's pneumatic circuit
- · discharge the product being pumped and close the product onoff valves
- carry out periodic inspections (2 ÷ 30 days in accordance with the fluid pumped) to check the filtering elements cleaning
- carry out periodic inspections (3 ÷ 5 months in accordance with the fluid pumped and with the environment conditions) to ensure the correct operation of the system start/stop units
- he presence of fluid under the dampener casing may indicate failures to the dampener
- · damaged parts must be replaced with complete original parts and not with repaired parts
- · the replacement of damaged parts must be carried out in a clean and dry place
- remove the powder deposits from the external surfaces of the pulsation dampener with a cloth soaked in suitable neutral detergents
- · periodically control and clean the internal surfaces with a damp cloth

RECOMMENDATIONS

WARNING: before performing any maintenance or repair work on the pump and dampener, disconnect the pump from the air supply line. Disconnect the hydraulic connections and discharge the product that is being pumped

all the operation must be carried out by qualified personnel use gloves, goggles and acid-resistant clothing when disconnecting from the system and washing the dampener wash the dampener before carrying out maintenance operations do not disperse the washing waste into the environment

DISASSEMBLY

Bolts are the type with right thread Clean all the dampner external surfaces using a damp cloth

DIAPHRAGMS REMOVAL separate the dampener's casing removing the fixed screws clean all the dampner surfaces using a damp cloth remove the cap (if present)

PNEUMATIC VALVE REMOVE

unscrew the valve from the casing WARNING: to avoid incorrect reassembly and subsequent malfunction of the dampener the automatic valve must not be open

INSPECTION

Check the absence of:

- · excessive abrasion of the thermoplastic parts
- clots and/or agglomerates due to the pumped fluid
- · deformations and/or surface lesions of the diaphragms
- deformations and/or surface lesions of the dampener casing
- replace the parts: broken, cracked, deformed
- · reopen all the clogged ducts and eliminate any chemical agglomerates
- Clean all the surfaces before reassembly, particularly the OR gaskets seats (risk of leaks for dripping)
- WARNING: Should the dampener be returned to the manufacturer or service center, you must empty it out completely. In toxic, noxious or other types of dangerous products have been used, the dampener must be suitably treated and washed before it is sent

CLEANING AND REPLACING THE DIAPHRAGMS

control and internal cleaning every 500.000 cycles diaphragm check every 5.000.000 cycles diaphragm replacement every 20.000.000 cycles

SAFETY RULES

WARNING! CHEMICAL RISK. Pumps are intended for operation with different types of fluids and chemical solutions. Follow the specific internal instructions for decontamination during the inspection or maintenance operations.

WARNING: the diaphragms (into contact with the product and external) are components extremely subject to wear. Their duration is strongly affected by the conditions of employments and by chemical and physical stresses. By tests carried out on thousands of pumps installed with head value from 0° to 18°C, the ordinary life exceeds one hundred million cycles. For safety reasons, in environments with explosion risk it is necessary to disassemble and check the diaphragms every five million cycles and to replace them every twenty million cycles.



WARNING! In the case of diaphragms total breaking, the fluid may enter in the pneumatic circuit, damage it and come out from the discharge port. Therefore it is necessary to convey the air discharge in a piping up to a safe area.

WARNING! In situations where the user foresees the possibility of exceeding the temperature limits indicated in this manual, it is necessary to install a protection device on the equipment that prevents to achieve the maximum operating temperature allowed. If exceeded, respect to the maximum marking

temperature is not guaranteed. REMEMBER! Safety risks to persons are mainly caused by improper use or accidental damage. These



risks may be of hand injury for operators working on the open pump, or caused by the nature of the fluids that are conveyed by this type of pump. Therefore it is extremely important to diligently carry out all the instructions contained in this manual in order to eliminate the causes of accidents that may lead to the pump failure and to the subsequent outcome of fluid hazardous to persons and to the environment.

For installation and use in a potentially explosive environment, comply with these general precautions:

ascertain that the dampener is full and if possible, that the level is above it by 0.5 m

ascertain that the fluid treated does not contain or cannot contain large solids or solids of a dangerous shape

also ascertain that the connection piping is strong enough and cannot be deformed by the dampener's weight or by the intake. Also check that the dampener is not burdened by the weight of the piping

if the dampener is to stay in disuse for a long period of time, clean it carefully by running a non-flammable liquid detergent through it that is compatible with the dampener's construction materials;

if the dampener was turned off for a long period of time, circulate clean water in it for some minutes to avoid incrustations

before starting, after long periods of disuse, clean the internal and external surfaces with a damp cloth check the grounding

always protect the dampener against possible collisions caused by moving means or by various blunt materials that may damage it or react with its materials;

protect the dampener's surrounding ambient from splashes caused by accidental dampener failure

WARNING: the air supply pressure must never be over 7 bar or below 2 bar

WARNING: when using the pump with aggressive or toxic liquids or with liquids that may represent a health hazard you must install suitable protection to contain, collect and signal any spills: danger of pollution, contamination, injuries and/ or death

WARNING: the dampener cannot be used with fluids that are not compatible with its construction materials or in a place containing incompatible fluids.

WARNING: installing the dampeners without on-off valves on the intake and delivery sides to intercept the product in case of spillage is forbidden: danger of uncontrolled product spillage.

WARNING: installing the dampeners without on-off, three-way or check valves on the air supply piping to prevent the pumped liquid from entering the pneumatic circuit if the diaphragms are broken is forbidden: danger of fluid entering the compressed air circuit and being discharged into the environment

WARNING: should the user think that the temperature limits set forth in this manual may be exceeded during service, a protective device must be installed on the system that prevents the maximum allowed process temperature from being reached. If exceeded, respect of the maximum temperature displayed on the marking is not guaranteed

WARNING: the dampener must always be grounded irrespective of any organ to which they are connected. Lack of grounding or incorrect grounding will cancel the requirements for safety and protection against the risk of explosion

WARNING: the use of dampeners for flammable liquids is forbidden if they are made of non-conductive materials that charge statically (plastic materials) and without suitable grounding danger of explosion caused by static charges

WARNING: Aggressive, toxic or dangerous liquids may cause serious injuries or damage health, therefore it is forbidden to return a dampener containing such products to the manufacturer or to a service center. You must empty the internal circuits from the product first and wash and treat it

WARNING: dampeners containing aluminium parts or components coming into contact with the product cannot be used to pump iii-trichloroethane, methylene chloride or solvents based on other halogenated hydrocarbons: danger of explosion caused by a chemical reaction

WARNING: the PDA dampeners cannot use with Acetylene, Hydrogen, Carbon disulfide

WARNING: the components of the pneumatic exchanger, including the shaft are made from materials that are not specifically resistant to chemical products. In case the diaphragm break, replace these elements completely if they have come into contact with the product

WARNING: avoid using lubricated and/or un-dried air

WARNING: ascertain that no anomalous noises can be heard during operation. If they occur, stop the dampener immediately

WARNING: ascertain that the fluid at the delivery side does not contain gas. Otherwise stop the dampener immediately

WARNING: periodic controls must be made to ensure that there is no powder and/or deposits on the external and internal surfaces of the dampener and, if necessary, clean them with a damp cloth

WARNING: removal of the air supply pipe must be done when free from powder. Before restarting the dampener, ensure that no powder has entered the pneumatic distributor

To replace worn parts, use only original spare parts

However five general elements are important:

A- all the operations must be carried out by skilled personnel or monitored by qualified personal as appropriate B- implement personal protection works (when the dampener is installed in places involving more than occasional visits) against splashes of fluorescent fluid for accidental breakage and conveying works (always) of possible fluid leakages towards collection tanks

C- wear acid-resistant clothing and protection whenever operating on the pump

D- make sure that the Intake and delivery valves are correctly closed during the disassembly

E- make sure that there is no supply to the pneumatic circuit during the disassembly

It should be noted that it is very important to realize systems with pipes well arranged, identifiable, suitably equipped ,with shut-off valves, with comfortable compartments and passages for operators who must inspect their status (since the pressure developed by the pump may promote failures to the system if it is of defective construction or worn).

INSTALLATION AND START-UP PERSONNEL

Interventions allowed only to specialised personnel who may eventually delegate to others some operations depending on specific evaluations (technical capability required: specialisation in industrial plumbing or electric systems as needed).

MAINTENANCE AND OPERATIONAL PERSONNEL

Interventions allowed to general operators (after training on the correct use of the plant):

- dampener starting and stopping
- opening and closing of valves with the pump at rest
- emptying and washing of the pump body via special valves and piping
- cleaning of filtering elements

Interventions allowed to qualified personnel (technical capacities required: general knowledge of the mechanical, elec-

trical and chemical features of the plant being fed by the pump and of the pump itself):

- verification of environmental conditions
- verification of the condition of the liquid being pumped
- · inspections of the control/stop devices of the pump
- · inspections of the rotating parts of the dampener
- trouble shooting

PERSONNEL RESPONSIBLE FOR REPAIRS

Interventions allowed to general operators under the supervision of qualified personnel:

- stopping of the dampener
- closing of the valve
- emptying of pump body
- disconnection of piping from fittings
- removal of anchoring bolts
- washing with water or suitable solvent as needed

Interventions by qualified personnel (technical capacities required: general knowledge of machining operations, awareness of possible damage to parts due to abrasion or shocks during handling, know-how of required bolt and screw tightening required on different materials such as plastics and metals, use of precision measuring instruments): opening and closing of the dampener body

removal and replacement of rotating parts

WASTE DISPOSAL

Materials: separate plastic from metal parts. Dispose of by authorized companies.

DEFECT CAUSE SUGGESTION No air in the circuit Check circuit, valves and connections Insufficient air pressure Adjust pressure on the relevant reducer The dampener Insufficient air flow rate Check that piping and accessories have suitable passage 1 doesn't run and/or Damaged control valve Check and replace it doesn't start Check if any air comes out from the product delivery pipe. Broken diaphragm If so, replace diaphragm. There is an air leak in the valve. Replace the air valve The product pipe is clogged and ob-Disassemble the product pipe and clean it structed The dampener is The product being pumped is too 2 not performing at viscous its best The air is dirty, full of condensate or oil Check the air feed line. Air volume or pressure is insufficient Ensure that all the air control equipment has sufficient flow

TROUBLESHOOTING AND POSSIBLE CAUSES

TECHNICAL DATA

DIMENSIONS







75 - 100

200

Tubo 10 x 6 mm



model	In	air inlet	discharge	ØA	В	C	D	E	F	G	н	K
75	3/4"	1/4"	1/4"	120	130	/	/	1	/	1	/	/
100	1"	3/8"	1/4"	182	180	/	/	/	/	/	/	/
150 (WR-FC)	1 1/2"	3/8"	1/4"	231	250	100	327	296	60	/	345	/
150 (SS)	1 1/2"	3/8"	1/4"	233	279	/	/	/	/	/	/	204
200 (WR-FC)	2"	1/2"	1/2"	350	/	140	224	153	80	108	405	404
200 (AI)	2"	1/2"	1/2"	350	/	140		213	80	108	405	374
200 (SS)	2"	1/2"	1/2"	350	/	114	314	254	80	100	395	374

150 (SS)





GENERAL CONDITIONS OF SALE FOR PULSATION DAMPENERS SELENE (PDA)

1. COMPLAINTS

Complaints of any type must be made upon receiving the goods and within on week of discovering the defect. Complaints about incomplete orders or deterioration during transit must be made to us immediately and all the proofs of the irregularity must be collected in order to substantiate any claims against the carrier.

2. WARRANTY

Specifications, dimensions and any other information contained in our catalogues is to the best of our knowledge accurate. However, the above information is merely illustrative and is subject to modification without warning. In all cases we reserve the right to at any moment make any changes to our products that we deem to be appropriate and such changes shall not entitle the purchaser to make any claims against us. All drawings remain our exclusive property and may not be passed on to third parties or be reproduced without our written approval.

DURATION OF WARRANTY: ARGAL manufactures its products from first-class materials, uses qualified personnel and tests the different production stages. Within **twelve months from the time of installation** and no more than **eighteen months from delivery** ARGAL undertakes to examine any defective parts and to promptly replace any faulty parts free of charge if it is responsible for the fault. Such faults must not be due to wear, inexpert use or carelessness on the purchaser's part, fortuitous events or force majeure. The warranty period is shortened to <u>six months if the machines work continuously twenty-four hours a day</u>. Even machines that are under warranty must be sent to ARGAL carriage paid. Once the machines have been repaired they will be returned to the purchaser carriage forward. The replaced parts remain the property of ARGAL and must be returned to ARGAL. The warranty is voided: 1a) if the machines have not been properly maintained; 1b) if they have not been used in accordance with the technical standards set out in the manuals supplied with the delivery; 1c) if the machines are dismantled without our prior authorization; 1d) if the machines are 'mistreated'; 1e) if the machines are used to circulate liquids in applications that are different from those which have been specifically approved beforehand by ARGAL. We shall not be liable for the downtime arising from repairs to or the replacement of any machines of our sthat are under warranty.

ARGAL shall not be responsible for any direct, accidental or indirect damage, injury or loss (including, but not limited to accidental or indirect damage arising from loss or profit or sales, or for any personal injury or damage arising or any other accidental or indirect loss) or for damage and injury caused by use of the machine or inability to use the machine. Before using the machine the user must check the suitability of the machine for its intended purpose and shall use the machine entirely at his own risk and responsibility. The user notes that the pumps supplied to him by us oblige him, in accordance with Article 2050 of the Italian Civil Cod, to comply with all the legislative and regulatory standards governing dangerous activities such as using, storing and conveying aggressive and polluting chemical products. The user also undertakes to comply with the prescriptions that apply to the system (such as guards, washers, seals etc.) in which the pumps will be used and to comply with the installation instructions, checks and maintenance prescribed for pumps and installations.

The user must also allow us, if necessary, to check the operating efficiency of the systems and to subsequently check that the pump has been correctly installed. If the user fails to comply with the prescriptions laid down by us or prevents us from carrying out the above inspection, he voids all contractual warranty rights and warranty rights under the terms of Articles 1667 and 1668 of the Italian Civil Code.

BS, 31.10.2017

ARGAL S.r.I

Rev. 0 - 2017

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MANUFACTURER DATA



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Rev.5 - 09/17

The INSTRUCTION MANUAL must be delivered to the pump-user , who takes diligent note of it, fills in data for Maintenance Department (page 1), keeps the file for subsequent reference.Possible modifications do not imply updating of the existing manuals

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