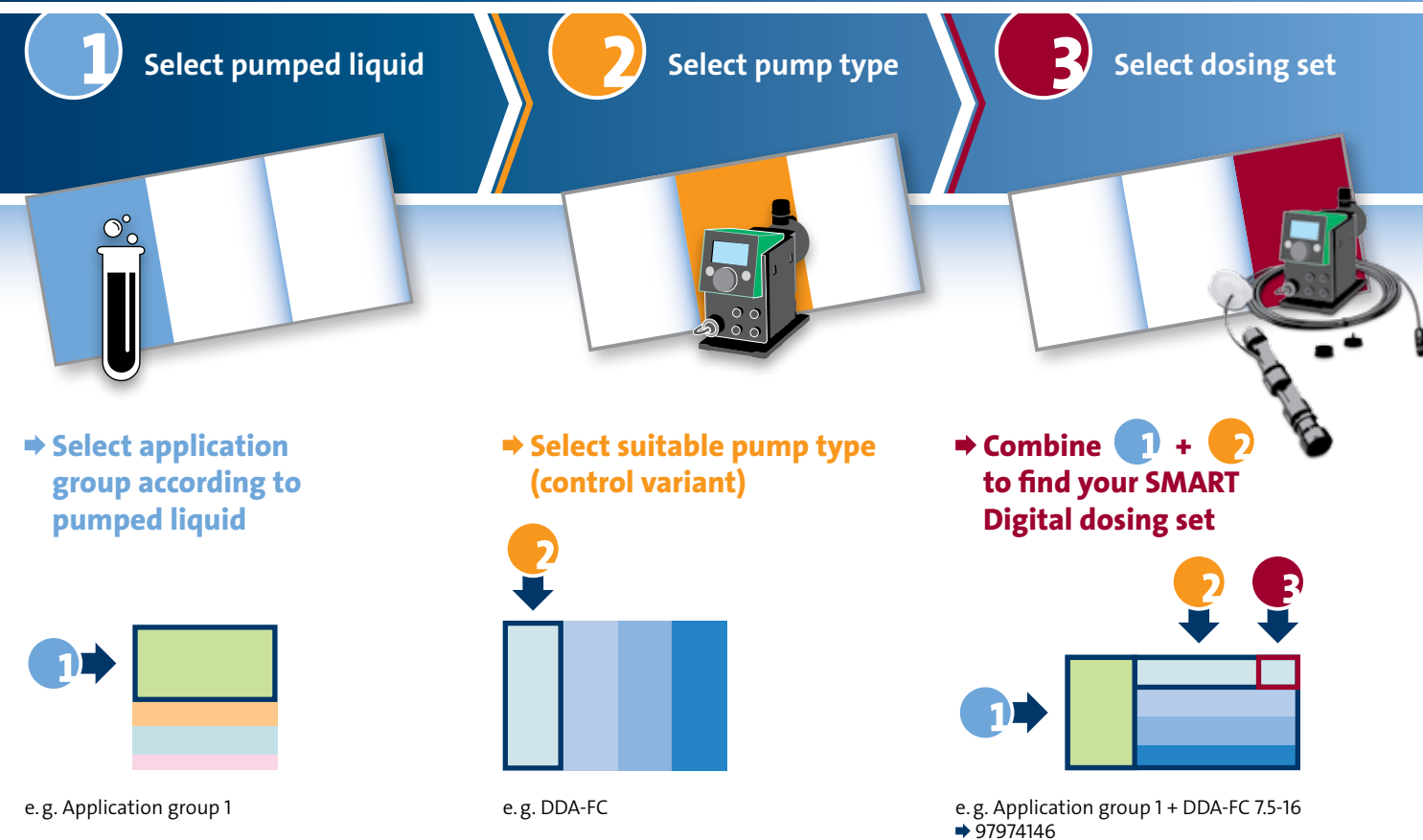
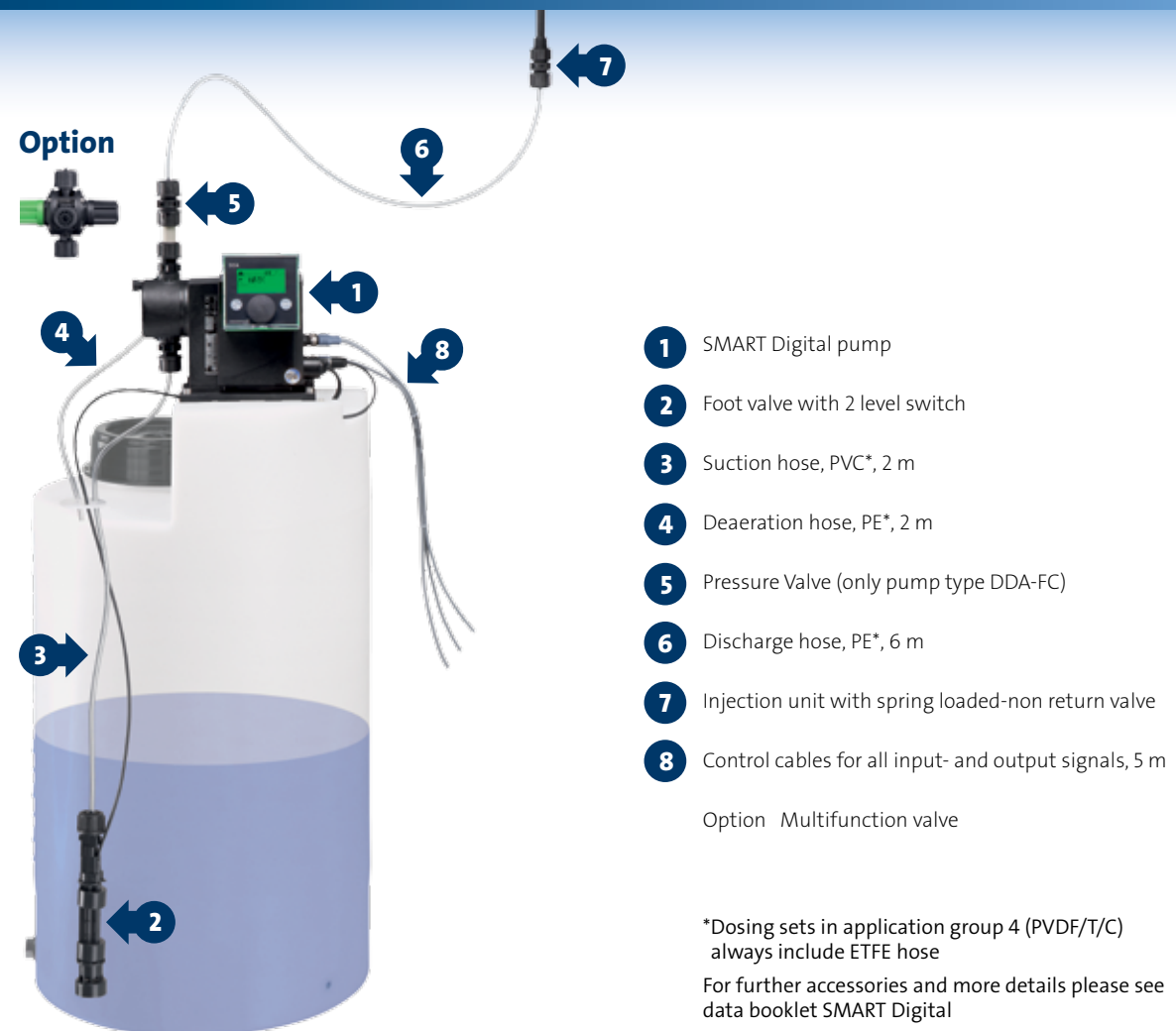


Scheme overview: How to select your dosing set



Parts of the dosing set



*Dosing sets in application group 4 (PVDF/T/C) always include ETFE hose

For further accessories and more details please see data booklet SMART Digital

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SMART Digital – breaking the barriers of dosing

Simplicity – Modularity – Flow Intelligence

- Low operation costs
- Longer maintenance intervals
- Extremely high dosing accuracy
- Saving chemicals
- Saving energy
- High sustainability

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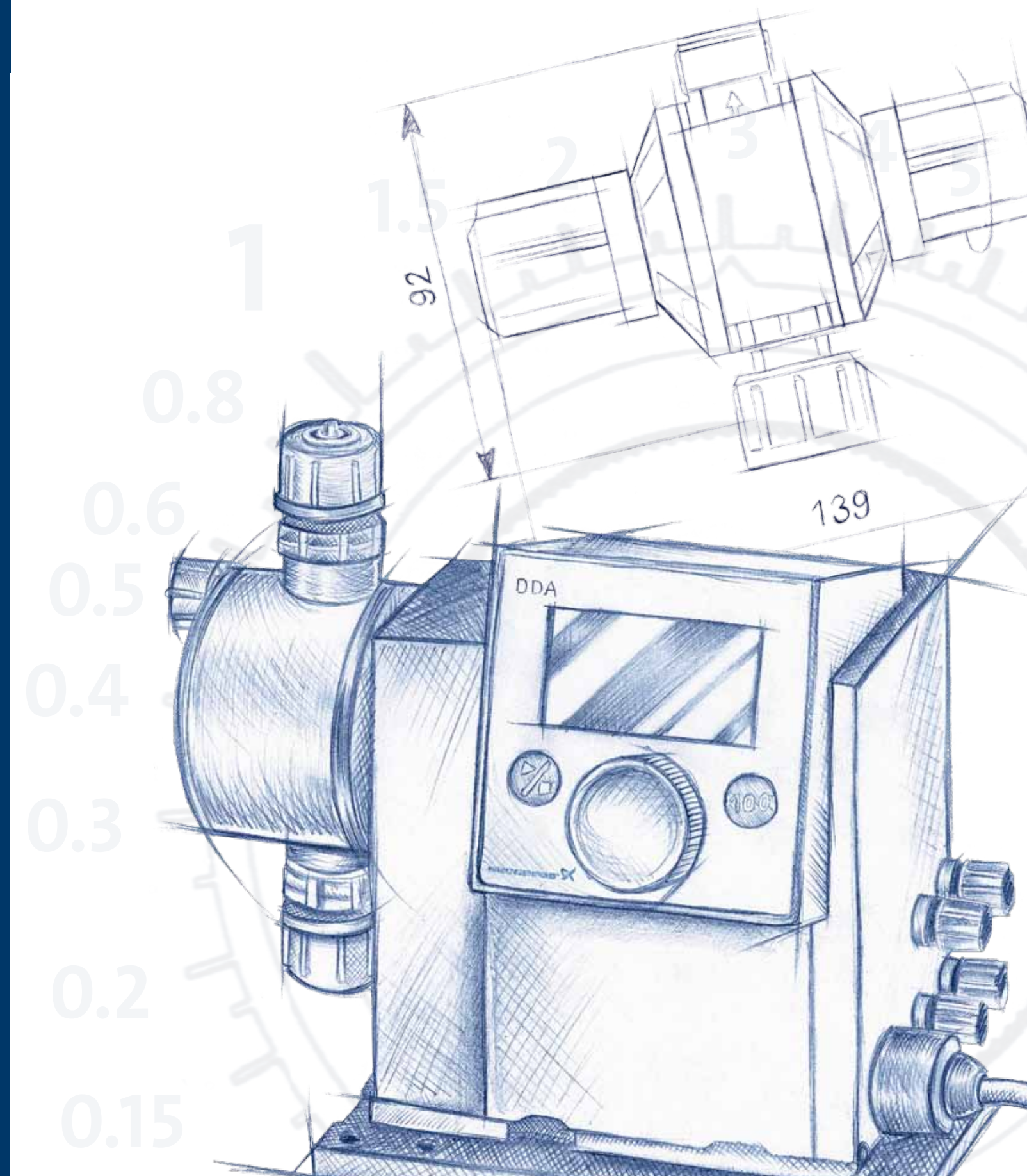
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1

Select pumped liquid

Selection based on pumped liquid

The selection table below is intended as a general guide for material resistance (at room temperature), and does not replace testing of the chemicals and pump materials under specific working conditions.

The data shown are based on information from various sources available, but many factors (purity, temperature, abrasive particles, etc.) may affect the chemical resistance of a given material.



2

Select pump type



3

Select dosing set



Application group	Pumped liquid (20 °C)			Materials			
	Description	Chemical formula	Concentration (%)	Dosing head	Gaskets	Ball	Hose
1	Aluminium chloride	AlCl ₃	40 %	PP or PVC	FKM (V)	Ceramic (C)	PVC/PE
	Aluminium sulphate	Al ₂ (SO ₄) ₃	60 %				
	Calcium hydroxide*1	Ca(OH) ₂	saturated				
	Copper sulphate	CuSO ₄	30 %				
	Ferric chloride*2	FeCl ₃	100 %				
	Ferric sulphate*2	Fe ₂ (SO ₄) ₃	100 %				
	Ferrous chloride	FeCl ₂	100 %				
	Ferrous sulphate	FeSO ₄	50 %				
	Hydrochloric acid	HCl	up to 37 %				
	Hydrogen peroxide*3	H ₂ O ₂	30 %				
	Sodium chlorate	NaClO ₃	30 %				
	Sodium chloride	NaCl	30 %				
	Sodium chlorite	NaClO ₂	20 %				
	Sodium sulphide	Na ₂ S	30 %				
	Sodium sulphite	Na ₂ SO ₃	20 %				
	Sodium thiosulfate	Na ₂ S ₂ O ₃	10 %				
Sulphurous acid	H ₂ SO ₃	6 %					
2	Acetic Acid	CH ₃ COOH	up to 60 %	PP or PVC	EPDM (E)	Ceramic (C)	PVC/PE
	Ammonia, aqueous	NH ₄ OH	28 %				
	Potassium hydroxide	KOH	50 %				
	Potassium permanganate	KMnO ₄	10 %				
	Sodium hydroxide	NaOH	up to 50 %				
3	Calcium hypochlorite	Ca(OCl) ₂	20 %	PVC	FKM (V)	Ceramic (C)	PVC/PE
	Chromic acid	H ₂ CrO ₄	up to 50 %				
	Nitric acid	HNO ₃	up to 40 %				
	Sodium hypochlorite*3	NaOCl	12 to 15 %				
Sulphuric acid*4	H ₂ SO ₄	up to 96 %					
4	Acetic acid	CH ₃ COOH	85 %	PVDF	PTFE (T)	Ceramic (C)	ETFE
	Fluosilicic acid	H ₂ SiF ₆	40 %				
	Nitric acid	HNO ₃	70 %				
	Peracetic acid	CH ₃ COOOH	5 to 15 %				
	Sulphuric acid *4	H ₂ SO ₄	98 %				

*1 Once the pump is stopped, calcium hydroxide will sediment rapidly

*2 Risk of crystallisation

*3 Strongly degassing, pump type DDA-FC or -FCM recommended

*4 Reacts violently with water and generates much heat. Pump should be absolutely dry before dosing sulphuric acid

Note: Some of the liquids in this table may be toxic, corrosive or hazardous.

Note: Please be careful when handling these liquids.

Overview of functions	DDA	DDC	DDE	
	FC	AR	AR	P
Control variant:				
General				
Digital Dosing: Internal stroke speed and frequency control	•	•	•	•
Mounting plate (basic / wall mounting)	•	•	•	•
Control panel				
Control cube mountable in three positions: front, left, right	•	•	•	•
Control panel position: front-fitted	•	•	•	•
Transparent protective cover for control elements	•	•	•	•
Capacity setting in millilitres, litres or US-gallons	•	•	•	•
Graphical display with background light in four colours for status indication: white, green, yellow, red	•	•	•	•
Plain-text menu in different languages	•	•	•	•
Turn-and-push knob (click wheel) for easy navigation	•	•	•	•
Capacity adjustment knob (0.1 – 100 %)	•	•	•	•
Start / Stop key	•	•	•	•
100 % key (deaeration)	•	•	•	•
Operation mode switch (manual / pulse)	•	•	•	•
Operation Modes				
Manual speed control	•	•	•	•
Pulse control in ml/pulse	•	•	•	•
Pulse control (1:n)	•	•	•	•
Analog control 0/4 – 20 mA	•	•	•	•
Batch control (pulse-based)	•	•	•	•
Dosing timer cycle	•	•	•	•
Dosing timer week	•	•	•	•
Fieldbus control	•	•	•	•
Functions				
Auto deaeration also during pump standby	•	•	•	•
FlowControl system with selective fault diagnosis	•	•	•	•
Pressure monitoring (min. / max.)	•	•	•	•
SlowMode (anti-cavitation)	•	•	•	•
Calibration mode	•	•	•	•
Scaling of analog input	•	•	•	•
Service information display	•	•	•	•
Relay setting: alarm, warning, stroke signal, pump dosing, pulse input	•	•	•	•
Relay setting (additionally): timer cycle, timer week	•	•	•	•
Inputs / Outputs				
Input for external stop	•	•	•	•
Input for pulse control	•	•	•	•
Input for analog 0/4 – 20 mA control	•	•	•	•
Input for low-level signal	•	•	•	•
Input for empty tank signal	•	•	•	•
Output relay (2 relays)	•	•	•	•
Output analog 0/4 – 20 mA	•	•	•	•
Input / Output for GENibus	•	•	•	•
Input / Output for E-box (e.g. E-box 150 with Profibus DP)	•	•	•	•

For further control variants and details please see data booklet SMART Digital

1	2	3	Optional				
Application Group	Pump type	Max. flow (l/h)	Max. pressure (bar)	Hose size (mm)	Dosing Set Part number	Multifunction valve Part number	
1 (PP/V/C)	DDA-FC	7.5	16	4/6	97974146	Relief pressure 10 bar: 95704585	
		17	7	9/12	97974151		
		30	4	9/12	97974158		
	DDA-AR	7.5	16	4/6	97950230		
		17	7	9/12	97974133		
		30	4	9/12	97974140		
	DDC-AR	6	10	4/6	97974061		Relief pressure 16 bar: 95730821
		9	7	9/12	97974066		
	DDE-P	15	4	9/12	97974070		
		6	10	4/6	97974041		
DDE-P	15	4	9/12	97974045			
	2 (PP/E/C)	DDA-FC	7.5	16	4/6	97974147	Relief pressure 10 bar: 95704591
17			7	9/12	97974153		
30			4	9/12	97974159		
DDA-AR		7.5	16	4/6	97974076		
		17	7	9/12	97974134		
		30	4	9/12	97974141		
DDC-AR		6	10	4/6	97974062	Relief pressure 16 bar: 95730822	
		9	7	9/12	97974067		
DDE-P		15	4	9/12	97974071		
		6	10	4/6	97974042		
DDE-P	15	4	9/12	97974046			
	3 (PVC/V/C)	DDA-FC	7.5	10	4/6	97974148	Relief pressure 10 bar: 95730807
17			7	9/12	97974154		
30			4	9/12	97974160		
DDA-AR		7.5	10	4/6	97974077		
		17	7	9/12	97974135		
		30	4	9/12	97974142		
DDC-AR		6	10	4/6	97974063	Relief pressure 16 bar: 95730823	
		9	7	9/12	97974068		
DDE-P		15	4	9/12	97974072		
		6	10	4/6	97974043		
DDE-P	15	4	9/12	97974047			
	4 (PVDF/T/C)	DDA-FC	7.5	16	4/6	97974150	Relief pressure 10 bar: 95730812
17			7	9/12	97974157		
30			4	9/12	97974162		
DDA-AR		7.5	16	4/6	97974079		
		17	7	9/12	97974138		
		30	4	9/12	97974145		
DDA-AR	7.5	16	4/6	97974079	Relief pressure 16 bar: 95730828		
	17	7	9/12	97974138			
	30	4	9/12	97974145			