

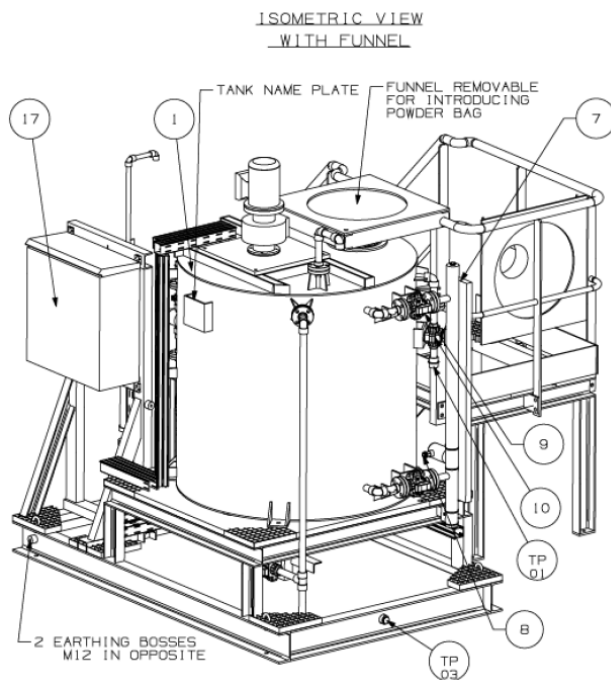
ADDITIVES PREP & DOSING SYSTEM

DESCRIPTION

NEVER USED, NEVER ASSEMBLED – This skid mounted, Additive Preparation and Dosing System is designed to dose and mix Sodium Hypochlorite or Calcium Hypochlorite to disinfect water but could be used for other additive and dosing needs.

System includes the following items:

- one pump
- one atmospheric tank
- one pulsation dampener
- one pressure indicator
- one safety valve
- one level switch
- one magnetic level gauge
- one mixer (agitator)
- one back pressure valve
- one local control panel
- Lot of accessories such as valves, strainer, calibration pot
- Spare parts for commissioning and start up



I.D.	??
OEM	Milton Roy Europe
YOM	2014
Location	Indoor Warehouse Dunkirk, France
Condition	NEVER USED
Packaging	Original Crates

	SPECIFICATIONS
Temp Range	5°C and 47°C
NaClO or Ca(ClO) ₂	@ 10 g/liter
Storage Tank Material	Polypropylene Homopolymer (PPH) 6mm Thick
Storage Tank Dim.	Øint 1200mm, height 1000mm
Level Gauge w/ Switch	Krohne B26 Gauge & MS15 Switch
Tank Mixer	Carbon Steel coated with Halar 126 RPM
Mixer Motor	Leroy Somer 0.375 kW, 1500 RPM, IP55, 400V – 50Hz – 3Ph
Injection Pump	mRoy XA @ max discharge 6 bar g CPVC Body / PTFE Diaphragm
Injection Pump PSV	Internal : 10 bar g External : 3.5 bar g
Plunger	Speed 75 SPM Stroke length : 18 mm Plunger Ø : 15.9 mm
Calibration Pot	0.2 L – CPVC, Pyrex with Viton gaskets



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PROCESS DESCRIPTION

The system mixes water and Sodium hypochlorite in the 140-TK-3100 tank before pumping. The mixer item 140-AG-3110 is driven by an electrical motor item 140-AG-3110-M wired to the local control panel item 140-LCP-3000.

The pump item 140-PU-3210 draws the liquid from the process piping into its suction line through the piping and the valves. The pump 140-PU-3210 is driven by an electrical motor item 140-PU-3210-M wired to the local control panel.

The position of the valves directs the fluid to the pump item 140-PU-3210 being in service. The internal liquid end of the pump item 140-PU-3210, permits to control the volume of liquid to be pumped at each suction/discharge cycle through the manual stroke adjustment system.

The pulsation dampener is connected to the discharge line immediately after the pump to absorb some of the flow variation inside the piping through one cycle of the pump.

The pressure indicator item 140-PI-3210-1 connected on the piping indicates the pressure inside the discharge pipe. This pressure gauge is fitted with a diaphragm separator to avoid corrosion of the internal pressure gauge parts.

The safety valve item 140-PSV-3210-3 plays a safety role, releasing out any excess of pressure that would damage the package if not maintain within package limits. The setting pressure is 3.5 bar g.

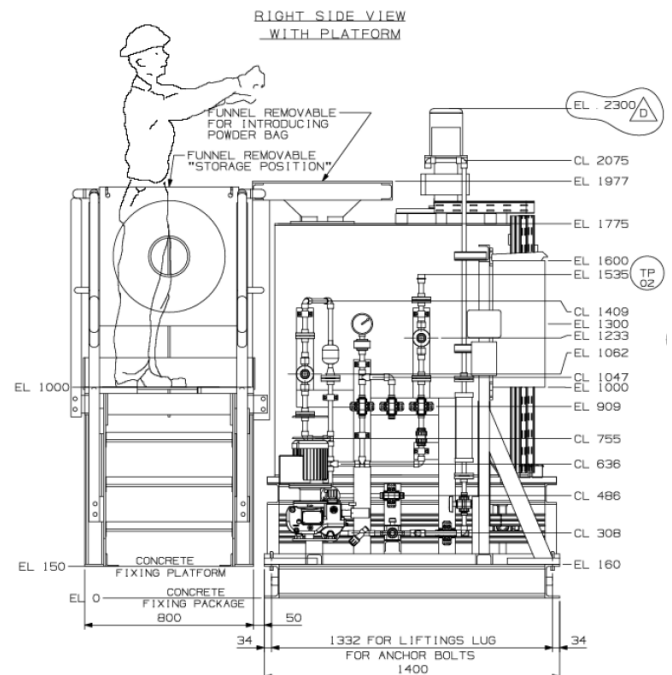
The level switch item 140-LSL-3100-1 is provided as a low alarm liquid level in the tank. This will automatically stop the pump and the mixer.

The level gauge item 140-LI-3100-2 is connected to the tank in order to read the liquid level in tank and with isolating valve in case of maintenance or leakage on the level gauge itself.

The calibration pot is used to adjust and check pump flow.

The back-pressure valve item 140-PRV-3210-2 is provided to ensure pump correct functioning by creating an artificial back pressure of 2.5 bar g

A local control panel Item LCP-140-3000 is provided to start / stop pump and mixer motors manually, but also to stop automatically the pump and mixer in case of low liquid level in the tank.



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PROCESS DESCRIPTION

The system will be used as need per week, depending on water analysis. The additive preparation package permits to distribute a given quantity of liquid 5 l/h in normal operation and 12.5l/h max at 140-PU-3210 pump discharge line of sodium/calcium hypochlorite solution in water 10 g/l. Discharge pressure is 2.5 bar g. The flow is discontinuous.

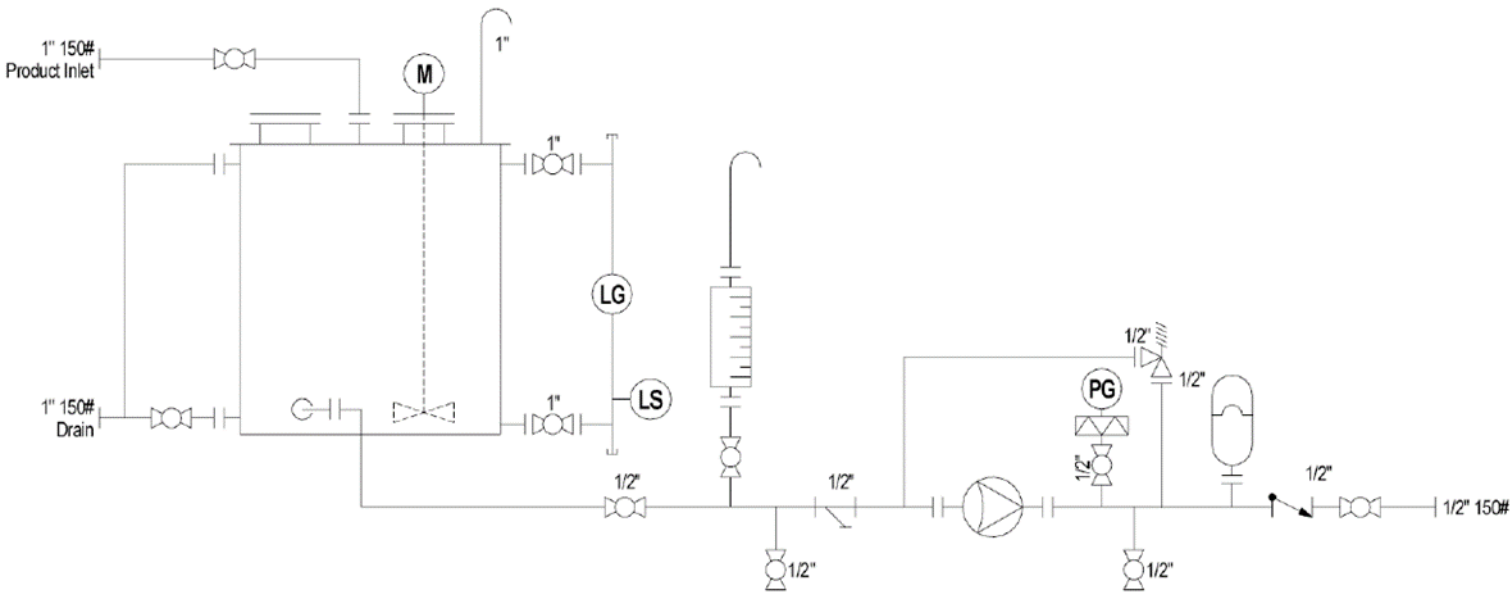
Normal pressure at discharge line is 2.5 bar g

Maximum pressure at discharge line is 3.5 bar g.

Maximum pressure at suction line is the weight of product when tank 140-TK-3100 is full of product.

Design temperature is 5°C min – 47°C max.

Mixer does not run continuously; this functionality is managed by the operator



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ADDITIVES PREP & DOSING SYSTEM

EQUIPMENT LIST

REP	QTY	DESIGNATION	MATERIAL	SUPPLIER	ITEM
1	1	VERTICAL CYLINDRICAL TANK USEFULL VOLUME : 0,94 M3 TOTAL VOLUME : 1,15 M3 CYLINDER Lg : 1200 Ø 1200 THK: 6mm BOTTOM & COVER FLAT THK 8 mm WITH : QUICK OPENING ACCESS COVER WITH COLLET Ø270 TYPE "SAFI" OPENED FOR INTRODUCING FUNNEL SAND PROOF WITH : FUNNEL REMOVABLE FOR INTRODUCING POWDER BAG MATERIAL : PEHD Thickness : 10mm NOZZLES : LOOSE FLANGED REINFORCED WITH 3 OR 4 BRACKETS VITON GASKETS	PEHD	MRE	140-TK-3100
2	1	DOSING PUMP TYPE M ROY A REFERENCE : XA112(75IG2P2.5/.9.L.HH3.Z MANUAL STROKE ADJUSTEMENT SUCTION/DISCHARGE : 1/2" ANSI 150# FF MOTOR: POWER 0.37 Kw SPEED : 1000 RPM POWER SUPPLY 400V 50HZ PROTECTION:1P55	CPVC/PTFE	MRE LEROY SOMER	140-PU-3210 140-PU-3210M
3	1	PRESSURE SAFETY VALVE SETTING PRESSURE : 3.5 Bar g CONNECTIONS : INLET /OUTLET Ø3/4" gaz MALE MOUNTING WITH FLANGES 1/2" 150# FF	PTFE	Stubbe	140-PSV-3210-3
4	1	BACK PRESSURE VALVE SETTING PRESSURE : 2.5 Bar g CONNECTIONS : INLET /OUTLET Ø3/4" gaz MALE MOUNTING WITH FLANGES 1/2" 150# FF	PTFE	Stubbe	140-PRV-3210-2
5	1	PULSATION DAMPENER TYPE 0.1 L CONNECTION : 1/2" 150# FF	316L PTFE COATED /VITON	SAIP	-
6	1	CALIBRATION POT CAPACITY 0,2 L CONNECTION : 1/2" 150# RF	PVCC/ PYREX/ VITON	MRE	-
7	1	LEVEL GAUGE TYPE MAGNETIC CENTER TO C. : 940 mm CONNECTIONS 1" 150# RF CONNECTIONS VENT & DRAIN : 3/4" NPT-F WITH PLUG MODEL:BM26/C/PP	PP	KROHNE	140-LI-3100-2
8	1	LEVEL SWITCH INTEGRAL TO MAGNETIC LG TYPE MS15 1P65 PROTECTION HERMETICALLY SEALED MICROSWITCH FOR LOW / LOW LEVEL (ADJUSTABLE) MODEL : MS15/STD/HC/PC/NN/BT	manuf. std.	KROHNE	140-LSL-3100-1



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EQUIPMENT LIST

9	2	TRUE UNION 2000 INDUSTRIAL BALL VALVE 1" 150# FF Vented Ball Valves with 1/8" vent hole in ball to equalize internal fluid pressures for Sodium Hypochlorite	CPVC	SPEARS	-
10	2	TRUE UNION 2000 INDUSTRIAL BALL VALVE 1" SOCW Vented Ball Valves with 1/8" vent hole in ball to equalize internal fluid pressures for Sodium Hypochlorite	CPVC	SPEARS	-
11	4	TRUE UNION 2000 INDUSTRIAL BALL VALVE 1/2" SOCW Vented Ball Valves with 1/8" vent hole in ball to equalize internal fluid pressures for Sodium Hypochlorite	CPVC	SPEARS	-
12	3	TRUE UNION 2000 INDUSTRIAL BALL VALVE 1/2" SOCW x 1/2" NPT F Vented Ball Valves with 1/8" vent hole in ball to equalize internal fluid pressures for Sodium Hypochlorite	CPVC	SPEARS	-
13	1	TRUE UNION 2000 INDUSTRIAL BALL CHECK VALVES 1/2" SOCW	CPVC	SPEARS	-
14	1	SOCKET Y STRAINER 1/2" SOCW	CPVC	SPEARS	-
15	1	PRESSURE GAUGE DIA. 100 mm CONNECTION : 1/2" NPT M. WITH DIAPHRAGM SEPARATOR CONNECTION : 1/2" NPT F. RANGE : 0-6 Bar g	316 SS/PPH/PTFE	ASHCROFT	140-PI-3210-1
16	1	LOW SPEED MIXER TYPE : VRP0021P100/L00E10DZ SPEED 126 Tr/min TURBINE DIA 200 mm MOTOR 0,37 KW 1500 RPM	CS/COATED HALAR	MRM LEROY SOMER	140-AG-3110- 140-AG-3110-M
17	1	ELECTRICAL CONTROL CABINET DIMENSIONS : 600x600x250 IP65 PROTECTION	CS/PAINTED	MATZ	140-LCP-3000

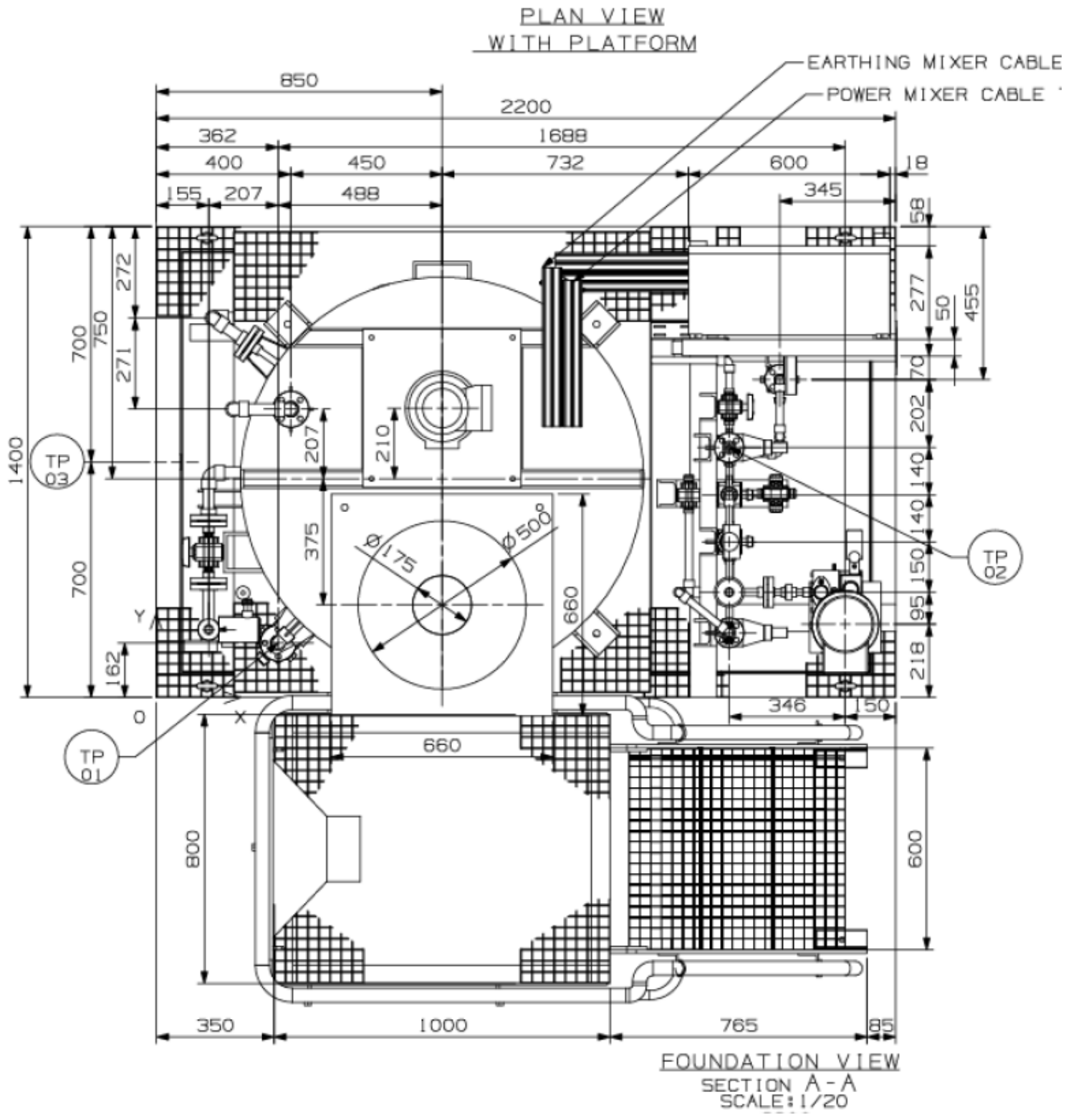


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ADDITIVES PREP & DOSING SYSTEM

PLAN VIEW DRAWING

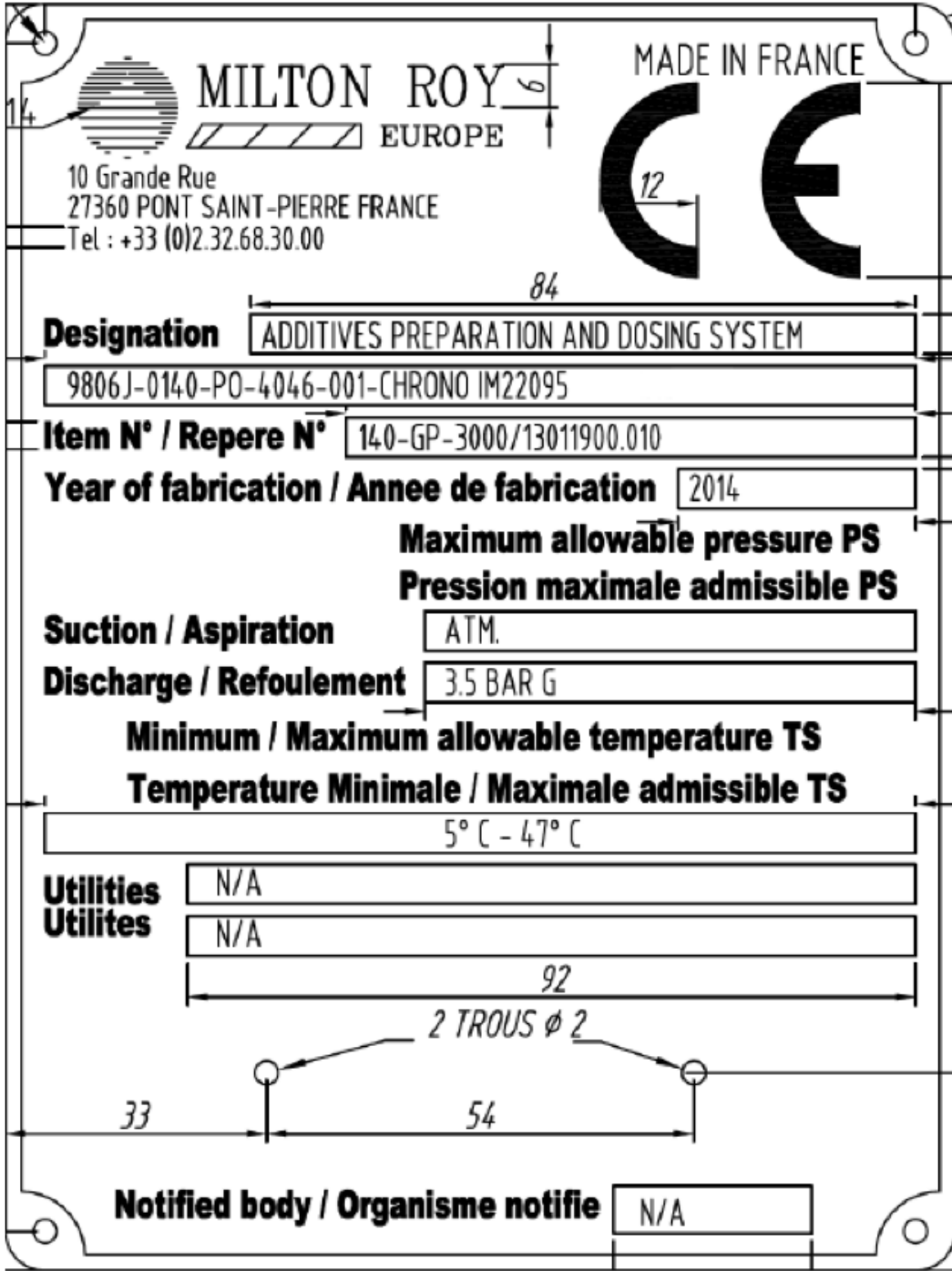


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ADDITIVES PREP & DOSING SYSTEM

NAME PLATE



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INSTRUMENT DATA SHEET - LEVEL SWITCH

GENERAL DATA						
1	INSTRUMENT TAG NUMBER - (Level Switch)	140-LSL-3100-1				
2	SERVICE	ADDITIVE PREPARATION AND DOSING SYSTEM				
3	UNIT NUMBER	140-GP-3000				
4	P&ID DRAWING NUMBER	13011900.010.4				
5	MANUFACTURER	Krohne				
6	MODEL NUMBER	MS15/STD/LC/PC/NO/BT				
7	SERIAL NUMBER	<i>Determinate after manufacture</i>				
8						
PROCESS DATA						
9	PROCESS FLUID	Sodium hypochlorite - 10 g/litres ou Calcium hypochlorite				
10	COLOR OF FLUID	N/A				
11	OPERATING PRESSURE kg/cm2 g	atm				
12	DESIGN PRESSURE kg/cm2 g	Tank full of liquid. (total volume 1,1 m3)				
13	OPERATING TEMPERATURE °C	35 (max)				
14	DESIGN TEMPERATURE °C	5 min - 47 max				
15	SPECIFIC GRAVITY AT OPERATING	1020 kg/cm 3				
16	ELECTRICAL AREA CLASSIFICATION	SAFE				
17	SPECIAL CONDITION	'SAND STORM'				
LEVEL SWITCH DATA						
18	QUANTITY OF SWITCH	1				
19	POWER SUPPLY	N/A				
20	CONTACT TYPE	SPDT				
21	COMMUNICATION PROTOCOL	HERMITICALLY MICROSWITCH				
22	ENCLOSURE	IP65				
23	MAXIMUM AMBIENT TEMPERATURE °C	-20°C +120°C				
24	IEC CERTIFICATION REQUIRED : Yes /No - Classification	No	N/A			
25	ELECTRICAL CONNECTION SIZE	M20 x 1.5				
26	MAIN MATERIEL OF CONSTRUCTION	as per manufacturer's standard				
27	PAINTING FOR CORROSIVE ATMOSPHERE REQUIRED Y / N	Yes on switch housing in case of aluminium				
28	TAG NUMBER FOR THE LEVEL SWITCH	140-LSL-3100-1				
29	TAG NUMBER FOR THE LEVEL ALARM	140-LAL-3100-1				
30	ALARM DETECTION FROM TANK BOTTOM	233 mm				
31	SUPPLIER REFERENCE	16 - 250 V				
32	LOCAL DISPLAY	N/A				
33	ATEX CERTIFICATE	<i>No require</i>				
34						
35	Marking	CE marking and certificate				
36						
37						
NOTES Not wetted - Assembly on level gauge 140-LI-3100-2						
Rev	DATE	REVISION MEMO	Issued by	Checked by	Approved by	PAGE
C	13/12/13	For approval	TP	JMR	SG	/
B	21/11/13	For approval	TP	JMR	SG	
A	17/10/13	ISSUED FOR REVIEW / COMMENTS	TP	JMR	SG	

INSTRUMENT DATA SHEET - MAGNETIC LEVEL GAUGE

GENERAL DATA	1	INSTRUMENT TAG NUMBER - (Level Gauge)	140-LI-3100-2	
	2	SERVICE	ADDITIVE PREPARATION AND DOSING SYSTEM	
	3	UNIT NUMBER	140-GP-3000	
	4	P&ID DRAWING NUMBER	13011900.010.4	
	5	MANUFACTURER	Krohne	
	6	MODEL NUMBER	BM26/C/PP	
	7	SERIAL NUMBER	<i>Determinate after manufacture</i>	
	8			
PROCESS DATA	9	PROCESS FLUID	Sodium hypochlorite - 10 g/litres ou Calcium hypochlorite	
	10	COLOR OF FLUID	N/A	
	11	OPERATING PRESSURE	kg/cm2 g atm	
	12	DESIGN PRESSURE	kg/cm2 g Tank full of liquid. (total volume 1,1 m3)	
	13	OPERATING TEMPERATURE	°C 35 (max)	
	14	DESIGN TEMPERATURE	°C 5 min - 47 max	
	15	SPECIFIC GRAVITY AT OPERATING	1020 kg/cm 3	
	16	ELECTRICAL AREA CLASSIFICATION	SAFE	
	17	SPECIAL CONDITION	'SAND STORM'	
LEVEL DATA	CONNECTION	18	QUANTITY OF GAUGE	1
		19	CONNECTION SIZE / TYPE	1 INCH
		20	CONNECTION RATING / FACING	150 RF
		21	CONNECTION ARRANGEMENT	SIDE/SIDE
		22	CONNECTION MATERIAL	PP
		23	GAGECOCK SIZE / RATING	NA
		24	VENT	3/4" NPT + plug
	TUBE (MAGNETIC)	25	DRAIN	3/4" NPT + plug
		26	MATERIAL OF WETTED PARTS	PP
		27	OVERALL LENGTH	~1390 mm
		28	CENTER TO CENTER DIMENSION	940
		29	SCALE (SIZE / TYPE)	cm/m
		30	VISIBLE GLASS LENGTH	940 mm
	OPTIONS	31	INDICATOR TYPE (FOLLOWER or FLAG)	FLAP
		32	SWITCHES (QUANTITY)	1 (for level detection)
		33	GASKET MATERIAL	PTFE
		34	ATEX CERTIFICATE	<i>No require</i>
		35	BOLTING	A193-B8M / A194-8M (not wetted)
36		Marking	CE marking and certificate	
37				
38				

NOTES

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INSTRUMENT DATA SHEET - PRESSURE GAUGE				
GENERAL DATA	1	INSTRUMENT TAG NUMBER	140-PI-3210-1	
	2	SERVICE	ADDITIVE PREPARATION AND DOSING SYSTEM	
	3	UNIT NUMBER	140-GP-3000	
	4	P&ID DRAWING NUMBER	13011900.010.4	
	5	MANUFACTURER	WIKA	
	6	MODEL NUMBER	233.50.100 6 Barg LM on seal 990.31 PP 1/2NPT- F	
	7	SERIAL NUMBER	Later - After delivery	
	8			
PROCESS DATA	9	PROCESS FLUID	Sodium hypochlorite - 10 g/litres ou Calcium hypochlorite	
	10	OPERATING PRESSURE	bar g 2,5	
	11	DESIGN PRESSURE	bar g 3,5	
	12	OPERATING TEMPERATURE	°C 35 (max)	
	13	DESIGN TEMPERATURE	°C 5 min - 47 max	
	14	SPECIFIC GRAVITY AT OPERATING	1020 kg/cm 3	
	15	ELECTRICAL AREA CLASSIFICATION	SAFE	
	16	SPECIAL CONDITION	'SAND STORM'	
ELEMENT	17	PRESSURE ELEMENT TYPE	Bourdon	
	18	PRESSURE ELEMENT MATERIAL	SS 316 L	
	19	MOVEMENT MATERIAL	SS 304	
	20	RANGE (FROM - TO)	bar g 0 - 6	
	21	ZERO ADJUSTMENT (YES / NO)	Y/N YES	
	22	SPAN ADJUSTMENT (YES / NO)	Y/N NO	
	23	ACCURACY	% 1%	
	24	OVERPRESSURE LIMIT	130%	
	25			
	26			
	HOUSING / BODY	27	GAUGE DIAL SIZE	mm 100
		28	CASE MATERIAL	stainless steel
		29	MOUNTING (STEM or SURFACE)	Stem
		30	PROCESS CONNECTION SIZE	1/2 " NPT M
		31	PROCESS CONNECTION TYPE (BOTTOM or BACK)	Bottom
32		INGRESS PROTECTION	IP 65	
33		DIAL	Aluminium, white, black letter	
34		WINDOW MATERIAL	Laminated safety glass	
35		STEM	SS 316 L	
36		MIN / MAX AMBIENT TEMPERATURE	°C -20°C...+60°C	
37		MAX MEDIUM TEMPERATURE	°C -20°C...+100°C	
38		OVER RANGE PROTECTION	No	
OPTION		39	DIAPHRAGM SEAL	Y/N YES
		40	DIAPHRAGM SEAL MATERIAL	PPH/PTFE
		41	DIAPHRAGM CHAMBER MATERIAL	NO
	42	OIL OR GLYCERIN FILLED	YES GLYCERINE	
	43	MOVING PISTON DAMPENER	Y/N NO	
	44	RESTRICTING ORIFICE	Y/N NO	
	45	SNUBBER	Y/N NO	
	46	ELECTRICAL SWITCH CONTACT TYPE	NO	
	47	CONTACT MODEL NUMBER	NO	
	48	AMBIANTE TEMPERATURE	°C -20°C...+60°C	
	49	ATEX CERTIFIED / CE MARKING / CE CERTIFICATE	Y/N No / Yes / Yes	
	50	SUITABLE FOR HAZARDOUS AREAS	Y/N No	
	51	BLOW OUT DISK PROTECTION	No	

NOTES

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Correspondant : M. JANAS

Customer : MILTON ROY

Enquiry ref.: 13011900

Our quotation ref.: MJ-031213

Sheet : 1 of 2

Date : 20/11/2013

Rev.: 0

By : M. JANAS/A.MALDEREZ

Product : PRV

Range : DHV 712 -R in PTFE- DN 10 (Male Threaded ends)

Item number : 1
Tag number : 13011900/014
Quantity : 1
MRE Ref. : 140-PRV-3210-2

Calculation :

DHV Area Select. : 78,5 mm²

Flow diameter : 10 mm

Certified Flow Capacity : 1000l/h

Fluid : NaOCl/Ca(ClO)₂
Temperature : 47 ° C
Concentration : 10gr/l

Set pressure : 2,5 barg
Working pressure : 2,5 barg
Max. pressure : 10 barg
Hysteresis : 0,3 barg

CONNECTIONS :

Inlet : DN 10

Outlet : DN 10

with male threaded ends in 3/4 » gaz on
PID

MATERIALS :

Body : PTFE

Diaphragm : PTFE

Seat seal : PTFE

Spring : Steel

Connections : PTFE

NOTE :

With MRE sticker

Correspondant : M. JANAS

Customer : MILTON ROY

Enquiry ref.: 13011900

Our quotation ref.: MJ-031213

Sheet : 2 of 2

Date : 20/11/2013

Rev.: 0

By : M. JANAS/A.MALDEREZ

Product : PSV

Range : DHV 712 -R in PTFE- DN 10 (Male Threaded ends)

Item number : 1
Tag number : 13011900/017
Quantity : 1
MRE Ref. : 140-PSV-3210-3

Calculation :

DHV Area Select. : 78,5 mm²

Flow diameter : 10 mm

Certified Flow Capacity : 1000l/h

Fluid : NaOCl/Ca(ClO)₂
Temperature : 47 ° C
Concentration : 10gr/l

Set pressure : 3,5 barg
Working pressure : 3,5 barg
Max. pressure : 10 barg
Hysteresis : 0,3 barg

CONNECTIONS :

Inlet : DN 10

Outlet : DN 10

with male threaded ends in ¾ » gaz on
PID

MATERIALS :

Body : PTFE

Diaphragm : PTFE

Seat seal : PTFE

Spring : Steel

Connections : PTFE

NOTE :

With MRE sticker