INTERNATIONAL STANDARD

ISO 10627-2

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Hydraulic agricultural sprayers — Data sheets —

Part 2:
Technical specifications related to components

Pulvérisateurs agricoles à jet projeté — Fiches techniques —
Partie 2: Spécifications techniques relatives aux composants

Reference number
ISO 10627-2:1996(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10627-2 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Sub-committee SC 6, *Equipment for crop protection*.

ISO 10627 consists of the following parts, under the general title Hydraulic *agricultural sprayers — Data sheets*:

— *Part 1: Typical layout*

— *Part 2: Technical specifications related to components*

Annex A forms an integral part of this part of ISO 10627. Annex B is for information only.

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Hydraulic agricultural sprayers — Data sheets —

Part 2:
Technical specifications related to components

1 Scope

This part of ISO 10627 establishes the technical specification of data sheet presentation, for the preparation of documents giving information about dimensions, materials, characteristics and design of component parts of non-air-assisted agricultural sprayers. Data sheets prepared according to this part of ISO 10627 will facilitate discussion between the manufacturers of sprayers and the manufacturers of component parts and accessories.

This part of ISO 10627 does not cover mass and dimensions of the sprayer in total, nor information related to the basic machine required by the manufacturer. Such information is given in ISO 10627-1.

This part of ISO 10627 applies during the conception of the data sheet by the manufacturer or importer of non-air-assisted agricultural sprayers, mounted, towed or self-propelled, used for the protection of crops and application of liquid fertilizers.

A list of International Standards related to this part of ISO 10627 is given in annex B.

2 General specifications

NOTE — Codes are explained in annex A.

2.1 Manufacturer

Name and address of manufacturer: .....

.....

.....

Distributor/importer: .....

.....

2.2 Type and year of manufacture

Implement type: .....

Year of manufacture: .....

Location of marking (code 101): .....

2.3 Trade-name(s)

.....

3 Tank specifications

	Principal tank	Rinsing tank	Other tank
3.1 Material (code 102)			
3.2 Volume			
Nominal volume:	l	l	l
Total volume:	l	l	l
3.3 Dimensions			
Length:	mm	mm	mm
Width:	mm	mm	mm
Height (to upper edge of filling opening):	mm	mm	mm
Location (code 304):			

3.4 Level indicator	Principal tank	Rinsing tank	Other tank
Type (code 303):			
Indicating range:	from..... l to l	from..... l to..... l	from..... l to..... l
Graduation:	l	l	l
Location (code 304):			

3.5 Filling hole			
Location (code 306):			
Diameter:	mm	mm	mm
Tank filling strainer			
material (code 102):			
diameter:	mm	mm	mm
depth:	mm	mm	mm
strainer surface:	mm^2	mm^2	mm^2
mesh width:	mm	mm	mm
Design of lid (code 305):			

3.6 Agitator			
Type (code 307):			
Design (code 308):			
Location (code 310):			

3.7 Drainage device			
Type (code 312):			
Design (code 313):			
Location (code 314):			

3.8 Filling device

	Principal tank	Rinsing tank	Other tank
Type (code 315):			
Design (code 316):			
Location (code 317):			
Volumetric flowrate with water:	l/min	l/min	l/min
Shut-off valve	YES NO	YES NO	YES NO
location of shut-off valve:			
Filtration device	YES NO	YES NO	YES NO
design (code 318):			
location (code 319):			

3.9 Dosing devices for crop protection products

Type (code 320):			
Design (code 321):			
Location (code 319):			
Measuring range:			
Measuring accuracy:			

4 Pump specifications

4.1 Main pump

Manufacturer:	
Design (code 402):	
Designation:	
Location (code 403):	

Drive (code 404): .....

Connection: .....

Nominal pressure: ..... MPa

Nominal speed: ..... r/min

Volumetric flowrate

non-pressurized: ..... l/min

at nominal pressure: ..... l/min

Pressure pulsation damper

design (code 407): .....

material (code 102): .....

4.2 Other pumps

Function (code 405): .....

Manufacturer: .....

Design (code 402): .....

Designation: .....

Location (code 403): .....

Drive (code 404): .....

Connection: .....

Nominal pressure: ..... MPa

Nominal speed: ..... r/min

Volumetric flowrate

non-pressurized: ..... l/min

at nominal pressure: ..... l/min

Pressure pulsation damper

design (code 407): .....

material (code 102): .....

5 Spray boom specifications

5.1 General

Design (code 703): .....

Working width: ..... m

Number of feeding lines: .....

Number of spray boom subdivisions: .....

Spray boom extension YES NO

additional working width: ..... m

5.2 Suspension

Design: ..... Rigid Mobile

If mobile, range of movement: ....° up to.....°

5.3 Height adjustment (code 702)

mechanical, by means of .....

hydraulic, by means of .....

other means: which .....

height adjustment range: ..... m

5.4 Safety device to maintain chosen height spray boom

Design: .....

5.5 Slope compensation system

Design (code 706): .....

Function (code 707): .....

Control (code 103): .....

Swing range: ..... ° up to .....°

Range of levelling: ..... up to .....° slope

5.6 Nozzles

Nozzle tips

designation: .....

design (code 711): .....

manufacturer: .....

material (code 102): .....

spray angle at 0,3 MPa: ..... °

nozzle spacing: ..... cm

optimum distance to the target surface: ..... mm

distance range to the target surface: ..... from ..... m to ..... m

optimum spray pressure: ..... MPa

spraying pressure range: ..... from ... MPa to ... MPa

Nozzle holder: ..... Single Multiple

designation: .....

design (code 715): .....

function (code 716): .....

control (code 103): .....

material (code 102): .....

thread dimensions: .....

bayonet connections: .....

Anti-drip device

designation: .....

design (code 720): .....

material (code 102): .....

opening pressure: ..... MPa

closing pressure: ..... MPa

Individual shut-off device

design (code 721): .....

function (code 721): .....

control (code 103): .....

Lateral distance: ..... mm

Nozzle supply line

design (code 801): .....

material (code 102): .....

inside diameter: ..... mm

outside diameter: ..... mm

5.7 Spray edge working device

Designation: .....

Design: .....

Function: .....

6 Liquid lines specifications

6.1 Suction line(s)

Number: .....

Material (code 102): .....

Design (code 801): .....

Inside diameter: ..... mm

Length(s): ..... m

6.2 Pressure lines

6.2.1 From pump to central

Number: .....

Material (code 102): .....

Design (code 801): .....

Inside diameter: ..... mm

Length(s): ..... m

6.2.2 From central to spray boom

Number: .....

Material (code 102): .....

Design (code 801): .....

Inside diameter: ..... mm

Length(s): ..... m

6.2.3 Agitator line(s)

Number: .....

Material (code 102): .....

Design (code 801): .....

Inside diameter: ..... mm

Length(s): ..... m

6.3 Return flow lines

Number: .....

Material (code 102): .....

Design (code 801): .....

Inside diameter: ..... mm

Length(s): ..... m

6.4 Other lines

Number: .....

Material (code 102): .....

Design (code 801): .....

Inside diameter: ..... mm

Length(s): ..... m

7 Filter specifications

7.1 Filling filter

Material (code 102): .....

Inside diameter: ..... mm

Length: ..... mm

Filtering surface: ..... mm^2

Mesh width: ..... mm

7.2 Suction side

Number: .....

Design (code 803): .....

Location (code 804): .....

Filter element

material (code 102): .....

inside diameter: ..... mm

length: ..... mm

filtering surface: ..... mm^2

mesh width: ..... mm

7.3 Pressure side

7.3.1 In line

Number: .....

Design (code 803): .....

Location (code 804): .....

Filter element

material (code 102): .....

inside diameter: ..... mm

length: ..... mm

filtering surface: ..... mm²

mesh width: ..... mm

7.3.2 In fittings

Number: .....

Design (code 803): .....

Location (code 804): .....

Filter element

material (code 102): .....

diameter: ..... mm

length: ..... mm

filtering surface: ..... mm²

mesh width: ..... mm

7.3.3 In spray boom

Number: .....

Design (code 803): .....

Location (code 804): .....

Filter element

material (code 102): .....

diameter: ..... mm

length: ..... mm

filtering surface: ..... mm²

mesh width: ..... mm

7.4 Additional filters

Function: .....

Number: .....

Design (code 803): .....

Location (code 804): .....

Filter element

material (code 102): .....

diameter: ..... mm

length: ..... mm

filtering surface: ..... mm^2

mesh width: ..... mm

8 Fittings

8.1 Pressure regulator

Design (code 905): .....

Location (code 901): .....

Pressure-regulating range: ..... from ... MPa to ... MPa

Control (code 103): .....

8.2 Main control valves

Design (code 903): .....

Location (code 901): .....

Control (code 103): .....

Suck-back control device | YES | NO

8.3 Pressure relief valve

Design (code 904): .....

8.4 Shut-off valves

Number: .....

Design (code 903): .....

Location (code 901): .....

Control (code 103): .....

8.5 Pressure-adjusting valve

Number: .....

Design (code 902): .....

Location: .....

Control (code 103): .....

8.6 Pressure gauge (manometer)

Number: .....

Location (code 901): .....

Scale range: ..... from ... MPa to ... MPa

Graduation: .....

Diameter of casing: ..... mm

Damping: .....

Compensation (code 907): .....

Accuracy class: .....

9 Volume regulation system specification

Designation: .....

Manufacturer: .....

9.1 System with constant flowrate

Design (code 909): .....

Function (code 910): .....

Location (code 911): .....

Control (code 103): .....

Working range

pressure: ..... from ... MPa to ... MPa

volumetric flowrate: ..... from ... l/min to ... l/min

p.t.o. speed: ..... from ... r/min to ... r/min

speed of travel: ..... from ... m/s to ... m/s

maximum deviation from calibrated rate: ..... from + ...% to − ....%

9.2 System with variable flowrate

Design (code 909): .....

Function (code 910): .....

Location (code 911): .....

Control (code 103): .....

Function range

pressure range:	from ... MPa to ... MPa
volumetric flowrate:	from ... l/min to ... l/min
p.t.o. speed:	from ... r/min to ... r/min
speed of travel:	from .... m/s to .... m/s
maximum deviation from calibrated quantity:	from +....% to −....%

9.3 Other regulation systems

Design (code 909):	
Function (code 910):	
Location:	
Control (code 103):	
Working range (necessary for estimate):	

10 Special accessories specifications

10.1 Band and row spraying devices

Number of rows:	
Designation:	
Function:	

10.2 Description of further special accessories not otherwise given

(List and describe type and function, give the dimensions.)

11 Specifications for volumes of residue

11.1 Volume of residue in tank

On flat surface ..... | |

On side slope

	Side-slope of 8,5°		Maximum angle given by the manufacturer: °	
	In litres	As percentage of nominal tank volume	In litres	As percentage of nominal tank volume
in the contour direction of travel				
to the left		%		%
to the right		%		%
in the contour gradient				
ascending		%		%
descending		%		%

11.2 Dead volume

On flat surface ..... | |

On side slope

	Side-slope of 8,5°		Maximum angle given by the manufacturer: °	
	In litres	As percentage of nominal tank volume	In litres	As percentage of nominal tank volume
in the contour direction of travel				
to the left		%		%
to the right		%		%
in the contour gradient				
ascending		%		%
descending		%		%

Annex A
(normative)

Code list

Code list shall be made from each list below.

If the code-No. "99" is used a description should be given which is as exact as possible.

When more than one code is used, the code numbers shall be separated by "+".

101 General/Location of marking

	Implement part		Location
0		no marking	
1	at the frame	1	front left
2	at the tank	2	front middle
3	at the linkage of bars	3	front right
99	other	4	rear left
		5	rear middle
		6	rear right
		7	left
		8	right
		99	other

102 Material

1	aluminium
2	special steel
3	special steel covered by synthetic material
4	fibreglass
5	rubber
6	rubber with textile insert
7	hard rubber
8	stainless steel
9	glass-fibre reinforced synthetic material
10	brass
11	buna N rubber
12	polyamide (Nylon, Perlon)
13	polyester
14	polyethylene
15	polyethylene with textile insert
16	polyethylene with spiral line (or hoses)
17	polyoxymethylene
18	polyvinylchloride
19	polyvinylchloride with textile insert
20	polyvinylchloride with spiral (for hoses)
21	cellular material
22	steel
23	steel covered by polyester
24	rustless steel
25	galvanized steel
26	Viton
99	other

103 Driving mechanism

0	not driven
1	mechanically driven by hand
2	mechanically driven by p.t.o.
3	hydraulically driven
4	pneumatically driven
5	electrically driven
6	electromotively driven
7	electropneumatically driven
8	electrohydraulically driven
9	electromagnetically driven
99	other

303 Tank — Level indicator — Type

0	no level indicator
1	simple scale, transparent background
2	simple scale, non-transparent background
3	scale on viewing glass
4	stand pipe with scale
5	stand pipe with scale and float
6	scale with float
7	round scale with pointer and float in tank
8	straight scale with increasing graduation downwards and float in tank
9	electronic indication
99	other

304 Tank — Level indicator — Location

0		no level indicator			
1	on the face	1	at front	1	internal side
2	on right	2	on right	2	external side
3	at rear	3	at rear		
4	on left	4	on left		
5	in tractor cab	5	in middle		
6	on tank	6	open choice		
99	elsewhere				

305 Tank — Filling hole — Design of lid

	Lock system		Aeration		Seal
0	no lock	0	no aeration		
1	lid border with claws	1	with aeration	1	no seal
2	hinged lid			2	packing ring
3	screw cap			3	O-ring seal
4	lid to be inserted			4	sealing round cord
5	lid with a bow-shaped lock			5	sealing lip
6	turn-lock fastener			6	labyrinth seal
99	other			99	other

306 Tank — Filling hole — Location

0 no filling hole
1 central
2 on left
3 on right
4 in front
5 at rear
99 other

307 Tank — Agitator — Type

0 no agitator
1 return flow
2 pressure agitator
3 with one nozzle tube
4 with two nozzle tubes
5 with one injector
6 with two injectors
7 turbine
8 propeller
9 wobble disc
99 other

308 Tank — Agitator — Design

0 no handling
1 no switch-off
2 switch-off possible (in series)
3 switch-off possible (optional)
4 adjustable (in series)
5 adjustable (optional)
99 other

310 Tank — Agitator — Location

0 no agitator
1 centrally above tank bottom
2 laterally on left above tank bottom
3 laterally on right above tank bottom
4 laterally on both sides above tank bottom
5 laterally on both sides and centrally above tank bottom
99 other

312 Tank — Drainage device — Type

1 separate outlet valve
2 in combination with suction device
99 other

313 Tank — Drainage device — Design

1 ball valve
2 valve
3 male fitting
4 disconnecting of suction hose
5 removal of filter mesh
99 other

314 Tank — Drainage device — Location

1 on left
2 on right
3 in front
4 at rear
5 at suction filter
6 at pump
7 at tank sump
99 other

315 Tank — Filling device — Type

0 no filling device
1 with connection to water hose
2 with main pump of sprayer
3 with filling pump
4 with injector
99 other

316 Tank — Filling device — Design

0 no filling device
1 suction hose with filter mesh
2 suction hose with filter mesh and non-return valve
3 hose connection with integral device producing a free jet (prevention of backflow)
99 other

317 Tank — Filling device — Location

0 no filling device
1 at filter valve
2 at suction valve
3 at pump
4 at filling hole
5 adjacent to filling hole
99 other

318 Tank — Filtration device — Design

0 no filtration device
1 filling sieve
2 filling shower
3 injector
4 injector with device for tank cleaning
99 other

319 Tank — Filtration device, dosing device — Location

0 no filtration device
1 on right of tank
2 on left of tank
3 filling hole
4 on right of chassis
5 on left of chassis
99 other

320 Tank — Dosing device — Type

0 no dosing apparatus
1 intermittent
2 continuous (direct to tank)
99 other

321 Tank — Dosing device — Design

0 no dosing apparatus
1 injector with product measuring
2 pump with product measuring
3 injector with electric volumeter
4 pump with electric volumeter
5 pump with no product measuring (dosing pump)
6 dosing pump with volume indicator
7 hydraulically by main stream
99 other

402 Pump — Design

	Type
0	no pump
1	reciprocating pump/in-line
2	reciprocating pump/star-shaped
3	reciprocating pump/opposed type
4	piston pump/in-line
5	piston pump/star-shaped
6	piston pump/opposed type
7	diaphragm pump/opposed type
8	diaphragm pump/star-shaped
9	diaphragm pump/opposed type
10	diaphragm piston pump/in-line
11	diaphragm piston pump/star-shaped
12	diaphragm piston pump/opposed type
13	peristaltic pump
14	centrifugal pump
15	roller pump
16	vane-cell pump
99	other

	Number of pistons/chambers
0	no piston/chambers
n	*n* = number of pistons/chambers