



# BARGAM

*Sprayers Division*

**IRIS / ELIOS**



IRIS

ELIOS

**Versatility, toughness and a wide range of accessories**







IRIS BDLA



IRIS BDX





ELIOS BDL



ELIOS BDL AIR



Rotating jets for an accurate washing of the main tank (◉). These jets can be also used to improve the agitation of the product when the tank is full by facilitating the mixing of the chemical products poured into the mixer.



Extra hydraulic agitators and tank agitation system on the bottom of the tank through hoses with calibrated agitation jets (◉ Elios/Iris).



Stainless steel baffles are mounted inside the tank in order to make it more stable. (◉ ELIOS/IRIS). Pictures: baffles with agitation hoses and inner float of the graduated level gauge for Elios.



Dry graduated level gauge (◉ Elios).



Graduated level gauge (◉ Iris).



Electrical control unit (◉).



Tracking drawbar hitched to the tractor elevator arms (◉ Elios/Iris).



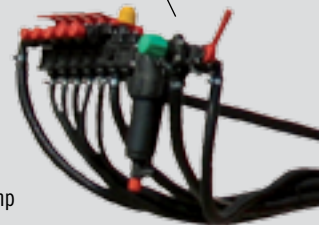
Fixed drawbar with adjustable height (◉ Elios/Riso).



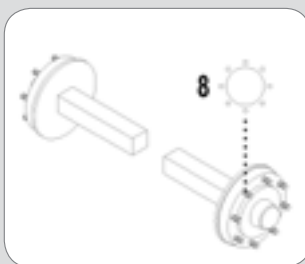
Homologated double drawbar (tracking and fixed) for Italian Street circulation (◉ Elios/Iris).



Low pressure diaphragm pump 180 - 250 – 280 lt/min.



Brake damper kit for mechanical tracking drawbar (◉). It makes the machine stable on irregular grounds and on the road. (If trailed machines with tracking drawbar are allowed on the road).



8 hole hubs (◉ Elios/Iris).



Independent hydraulic system: for using the machine without tractor hydraulic system. Please note: this fitting requires necessarily the hydraulic electrovalves 4-5 or 7 functions (Elios/Iris).





Rotating beacon for road traffic and boom lights for night work (○).

Equipment washing kit (manual hose reel kit with brush) connected to the clear water tank (○).

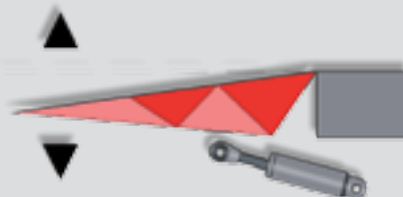


Line filters (○).

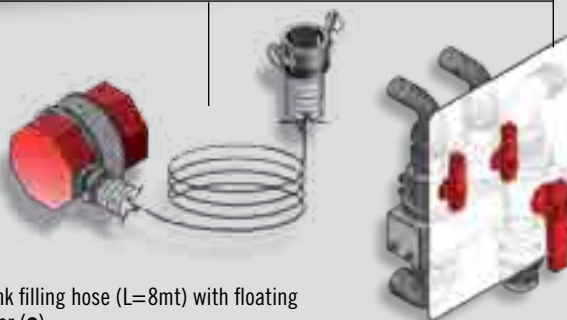
Pneumatic air suspension boom shock absorber (○). It isolates the boom from most wheels vibrations.



G-VAR ram kit with independent spring suspension (○) for the independent inclination of each boom arm (+12 -5 degrees).



Tank filling hose support.



Tank filling hose (L=8mt) with floating filter (○).

System washing kit with non-return valve. It enables to clean the entire liquid system and avoids any liquid returning to the main tank when cleaning.



Open simple mixer



System Washing Kit Compulsory for EC conformity declaration (optional only on Iris model, for machines without EC declaration).



1200mm Stroke hydraulic Height adjustment (optional 1500 mm).



Manual winch height adjustment (1000 mm/1200 mm Stroke).



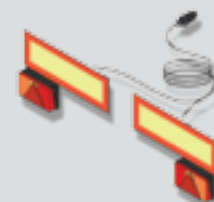
Hydraulic electrovalves with control board.



Hydraulic switch kit.



Clothes holder.



Light set with panels for road transport (optional).



Wheel grip wedge.

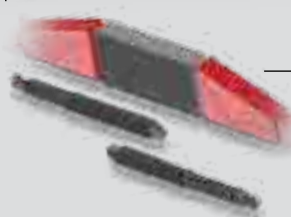
Hydraulic tilt ram with locking valve (standard or optional depending on the chosen boom type).



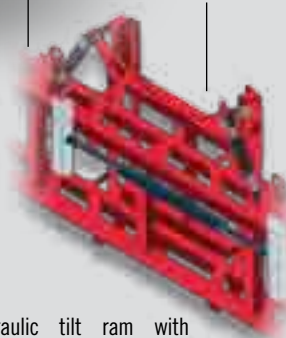
Mixer 30 lt with bottle-cleaner and Spring assisted mobile support (compliant with CE directive).



Hydraulic brake kit with manual service brake (optional).










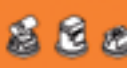















Boom stabilizing kit (optional suggested for work speed over 10 km/h)



Hydraulic tilt ram with locking valve (standard or optional depending on the chosen boom type).





				     												
				1.5 - 5.5 bar						1.5 - 6 bar						
				l/h												
<b>Ugelli</b> Nozzle / Buses / Düsen		bar	l/min	4	5	6	7	8	10	12	16	18	20	25	30	35
				km/h	km/h	km/h	km/h	km/h	km/h	km/h	km/h	km/h	km/h	km/h	km/h	km/h
		1.0	0.23	69.0	55.2	46.0	39.4	34.5	27.6	23.0	17.3	15.3	13.8	11.0	9.2	7.9
		2.0	0.32	95.0	76.8	64.0	54.9	48.0	38.4	32.0	24.0	21.3	19.2	15.4	12.8	11.0
		3.0	0.39	117	93.6	78.0	66.9	58.5	46.8	39.0	29.3	26.0	23.4	18.7	15.6	13.4
		4.0	0.45	135	108	90.0	77.1	67.5	54.0	45.0	33.8	30.0	27.0	21.6	18.0	15.4
		5.0	0.50	150	120	100	85.7	75.0	60.0	50.0	37.5	33.3	30.0	24.0	20.0	17.1
		6.0	0.55	165	132	110	94.3	82.5	66.0	55.0	41.3	36.7	33.0	26.4	22.0	18.9
		1.0	0.34	102	81.6	68.0	58.3	51.0	40.8	34.0	25.5	22.7	20.4	16.3	13.6	11.7
		2.0	0.48	144	115	96.0	82.3	72.0	57.6	48.0	36.0	32.0	28.8	23.0	19.2	16.5
		3.0	0.59	177	142	118	101	88.5	70.8	59.0	44.3	39.3	35.4	28.3	23.6	20.2
		4.0	0.68	204	163	136	117	102	81.6	68.0	51.0	45.3	40.8	32.6	27.2	23.3
		5.0	0.76	228	182	152	130	114	91.2	76.0	57.0	50.7	45.6	36.5	30.4	26.1
		6.0	0.83	249	199	166	142	125	99.6	83.0	62.3	55.3	49.8	39.8	33.2	28.5
		7.0	0.90	270	216	180	154	135	108	90.0	67.5	60.0	54.0	43.2	36.0	30.9
		8.0	0.96	288	230	192	165	144	115	96.0	72.0	64.0	57.6	46.1	38.4	32.9
		1.0	0.46	138	110	92.0	78.9	69.0	55.2	46.0	34.5	30.7	27.6	22.1	18.4	15.8
		2.0	0.65	195	156	130	111	97.5	78.0	65.0	48.8	43.3	39.0	31.2	26.0	22.3
		3.0	0.79	237	190	158	135	119	94.8	79.0	59.3	52.7	47.4	37.9	31.6	27.1
		4.0	0.91	273	218	182	156	137	109	91.0	68.3	60.7	54.6	43.7	36.4	31.2
		5.0	1.02	306	245	204	175	153	122	102	76.5	68.0	61.2	49.0	40.8	35.0
		6.0	1.12	336	269	224	192	168	134	112	84.0	74.7	67.2	53.8	44.8	38.4
		7.0	1.21	363	290	242	207	182	145	121	90.8	80.7	72.6	58.1	48.4	41.5
		8.0	1.29	387	310	258	221	194	155	129	96.8	86.0	77.4	61.9	51.6	44.2
		2.0	0.81	243	194	162	139	122	97.2	81.0	60.8	54.0	48.6	38.9	32.4	27.8
		3.0	0.99	297	238	198	170	149	119	99.0	74.3	66.0	59.4	47.5	39.6	33.9
		4.0	1.14	342	274	228	195	171	137	114	85.5	76.0	68.4	54.7	45.6	39.1
		5.0	1.28	384	307	256	219	192	154	128	96	85.3	76.8	61.4	51.2	43.9
		6.0	1.40	420	336	280	240	210	168	140	105	93.3	84	67.2	56.0	48.0
		7.0	1.51	453	362	300	259	227	181	151	113	101	90.6	72.5	60.4	51.8
		8.0	1.62	486	389	324	278	243	194	162	122	106	97.2	77.8	64.8	55.5
		1.0	0.68	204	163	136	117	102	81.6	68	51	45.3	40.8	32.6	27.2	23.3
		2.0	0.96	288	230	192	165	144	115	96	72	64.0	57.6	46.1	38.4	32.9
		3.0	1.18	354	283	236	202	177	142	118	88.5	78.7	70.8	56.6	47.2	40.5
		4.0	1.36	408	326	272	233	204	163	136	102	90.7	81.6	65.3	54.4	46.6
		5.0	1.52	456	365	304	261	228	182	152	114	101	91.2	73.0	60.8	52.1
		6.0	1.67	501	401	334	286	251	200	167	125	111	100	80.2	66.8	57.3
		7.0	1.80	540	432	360	309	270	216	180	135	120	108	86.4	72.0	61.7
		8.0	1.93	579	463	386	331	290	232	193	145	129	116	92.6	77.2	66.2
		1.0	0.91	273	218	182	156	137	109	91.0	68.3	60.7	54.6	43.7	36.4	31.2
		2.0	1.29	387	310	258	221	194	155	129	96.8	86.0	77.4	61.9	51.6	44.2
		3.0	1.58	474	379	316	271	237	190	158	119	105	94.8	75.8	63.2	54.2
		4.0	1.82	546	437	364	312	273	218	182	137	121	109	87.4	72.8	62.4
		5.0	2.04	612	490	408	350	306	245	204	153	136	122	97.9	81.6	69.9
		6.0	2.23	669	535	446	382	335	268	223	167	149	134	107	89.2	76.5
		7.0	2.41	723	578	482	413	362	289	241	181	161	145	116	96.4	82.6
		8.0	2.58	774	619	516	442	387	310	258	194	172	155	124	103	88.5
		1.0	1.14	342	274	228	195	171	137	114	85.5	76	68.4	54.7	45.6	39.1
		2.0	1.61	483	386	322	278	242	193	161	121	107	96.6	77.3	64.4	55.2
		3.0	1.97	591	473	394	338	296	236	197	148	131	118	94.6	78.8	67.5
		4.0	2.27	681	545	454	389	341	272	227	170	151	136	109	90.8	77.8
		5.0	2.54	762	610	508	435	381	305	254	191	169	152	122	102	87.1
		6.0	2.79	837	670	558	478	419	335	279	209	186	167	134	112	95.7
		7.0	3.01	903	722	602	516	452	361	301	226	201	181	144	120	103
		8.0	3.22	966	773	644	552	483	386	322	242	215	193	155	129	110
		1.0	1.37	411	329	274	235	206	164	137	103	91.3	82.2	65.8	54.8	47.0
		2.0	1.94	582	466	388	333	291	233	194	146	129	116	93.1	77.6	66.5
		3.0	2.37	711	569	474	406	356	284	237	178	158	142	114	94.8	81.3
		4.0	2.74	822	658	548	470	411	329	274	206	183	164	132	110	93.9
		5.0	3.06	918	734	612	525	459	367	306	230	204	184	147	122	105
		6.0	3.35	1005	804	670	574	503	402	335	251	223	201	161	134	115
		7.0	3.62	1086	869	724	621	543	434	362	272	241	217	174	145	124
		8.0	3.87	1161	929	774	663	581	464	387	290	256	232	186	155	133
		1.0	1.62	546	437	364	312	273	218	182	137	121	109	87.4	72.8	62.4
		2.0	2.58	774	619	516	442	387	310	258	194	172	155	124	103	88.5
		3.0	3.16	948	758	632	542	474	379	316	237	211	190	152	126	108
		4.0	3.65	1095	876	730	626	548	438	365	274	243	219	175	146	125
		5.0	4.08	1224	979	816	699	612	490	406	306	272	245	196	163	140
		6.0	4.47	1341	1073	894	766	671	536	447	335	298	268	215	179	153
		7.0	4.83	1449	1159	966	828	725	580	483	362	322	290	232	193	166
		8.0	5.16	1548	1238	1032	885	774	619	516	387	344	310	248	206	177
		1.0	2.28	684	547	456	391	342	274	228	171	152	137	109	91.2	78.2
		2.0	3.23	969	775	646	554	485	388	323	242	215	194	155	129	111
		3.0	3.95	1185	948	790	677	593	474	395	296	263	237	190	158	135
		4.0	4.56	1368	1094	912	782	684	547	456	342	304	274	219	182	156
		5.0	5.10	1530	1224	1020	874	765	612	510	383	340	306	245	204	175
		6.0	5.59	1677	1342	1118	958	839	671	559	419	373	335	268	224	192
		7.0	6.03	1809	1447	1206	1034	905	724	603	452	402	362	289	241	203
		8.0	6.45	1935	1548	1290	1106	968	774	645	484	430	387	310	258	221
		1.0	3.42	1026	821	684	586	513	410	342	257	228	205	164	137	114
		2.0	4.83	1449	1159	966	828	725	580	483	362	322	290	232	193	166
		3.0	5.92	1776	1421	1184	1015	888	710	592	444	395	355	284	237	203
		4.0	6.84	2052	1642	1368	1173	1026	821	684	513	456	410	328	274	235
		1.0	4.56	1368	1											



It is a value for a trailed machine not to damage the treated crops. Thus, it is important that the sprayer wheels exactly follow the tractor wheels' track. For this reason, Bargam supplies Elios and Iris with the Tracking drawbar as standard equipment.



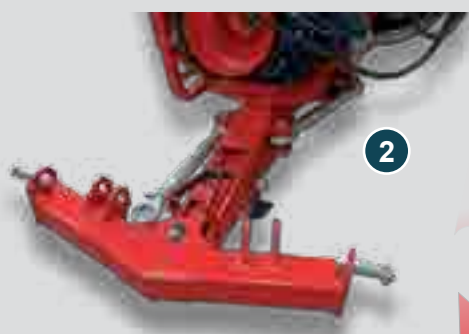
**Tracking drawbar.** It is a "permanent" mechanical joint, adjustable with the tractor, which allows to perfectly follow the tractor wheels and to minimize the impact on the grounds (see picture 1).



**Fixed drawbar.** It grants the sprayer stability in every difficult condition, such as on sloping grounds, on the road or on rice fields. The fixed drawbar is standard on the Elios version for rice fields (Elios Riso).



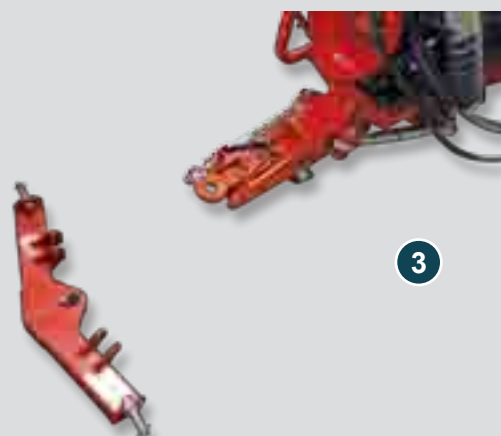
1



2



4



3

**Steering drawbar for Italian Homologation.** This "double" drawbar has been conceived for Italian road traffic and, in 4 easy steps, can be turned from a tracking drawbar (for work) into a fixed drawbar (for road traffic).





#### **Elios version for rice fields.**

Its special equipment, which distinguishes it from the traditional Elios, makes it a specialized machine

#### **1. CUSTOMISED WEIGHT BALANCE, WHEELS SINKING REDUCTION**

The axle can be mechanically adjusted in length in order to ensure an optimal weight balance. By pivoting on the axle, the sprayer has not all its weight on the trail eye and better "floats" on rice fields.

#### **2. METAL CORE**

All the aspiration system pipes have a metal core (not rubber) in order to keep the inlet water flow section unchanged.

#### **3. SPACER FOR IRON WHEELS**

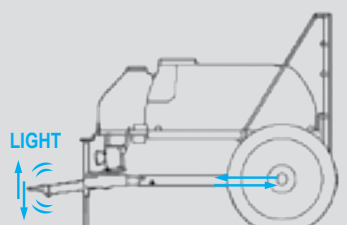
A special spacer is mounted on the boom between the height adjustment and the frame in order to equip the machine with bigger wheels, such as the iron wheels with  $D=1950$  mm.

#### **4. EASY MAINTENANCE**

The aspiration filter is positioned on the front side of the machine to make the routine maintenance easier and to protect it against accidental damage.

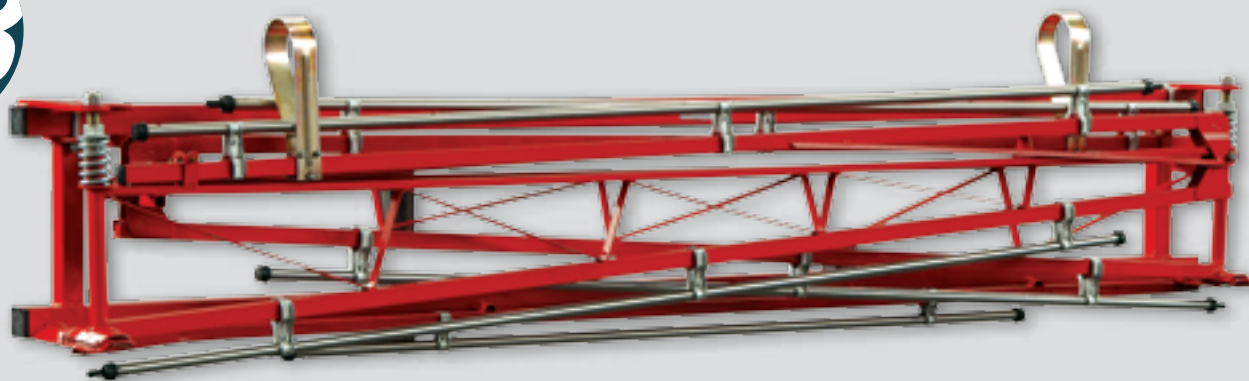
#### **5. PROTECTION SHEET**

The tank is fitted with a protection sheet in its lower part to safeguard the emptying valves from damages if the machine sinks into the ground.

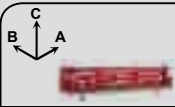


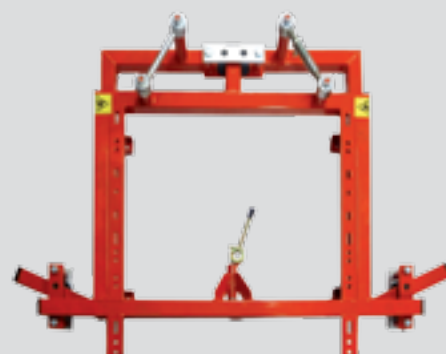
**Elios riso**





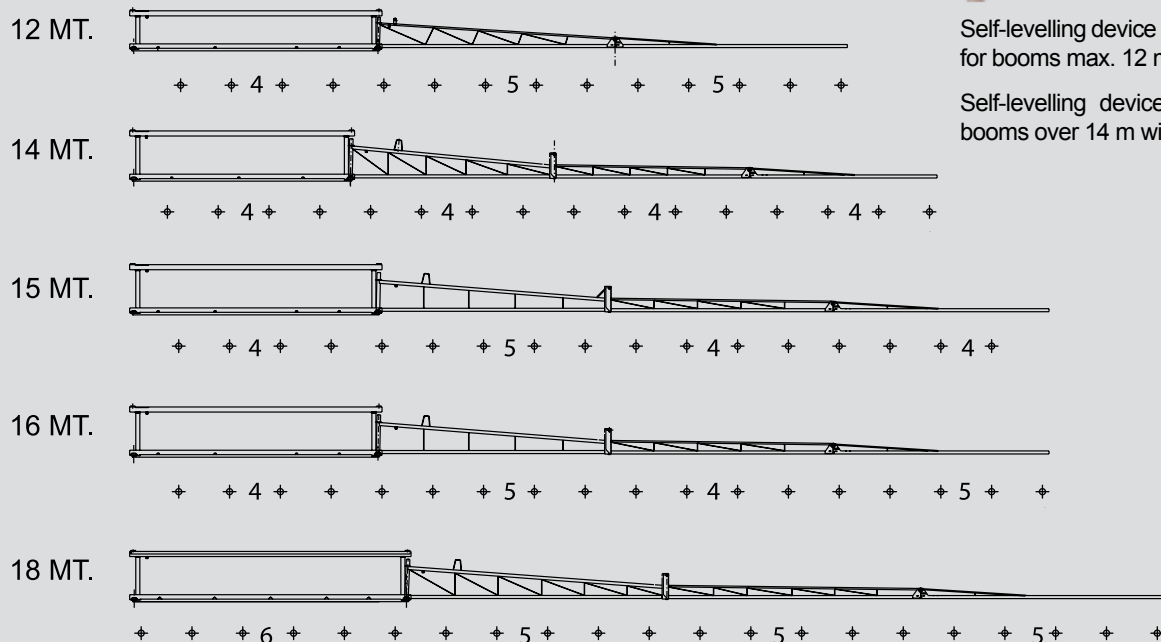
ECO BDM

	ECO BDM				
	12m	14m	15m	16m	18m
A (mm)	2480	2210	2490	2490	2770
B (mm)	300	330	330	330	330
C (mm)	430	680	680	680	680
Kg	68	93	109	110	130



Self-levelling device MEC SPECIAL for booms max. 12 m width

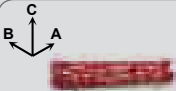
Self-levelling device SPECIAL for booms over 14 m width





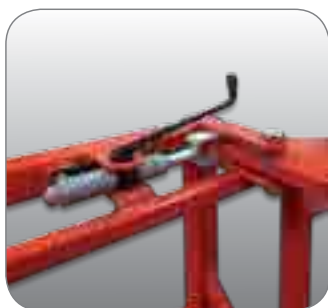
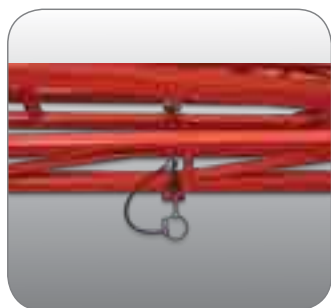
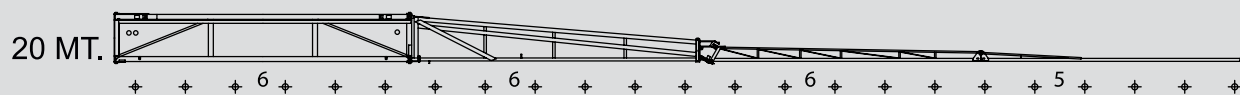
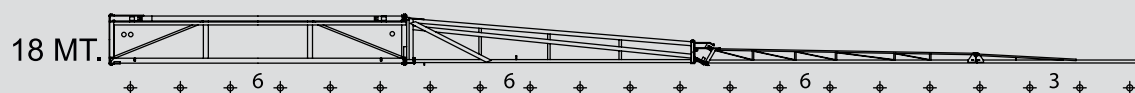
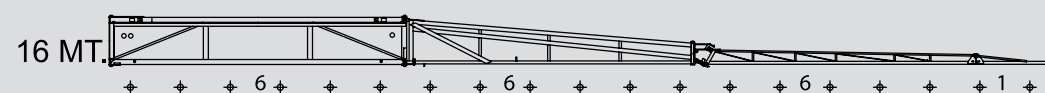
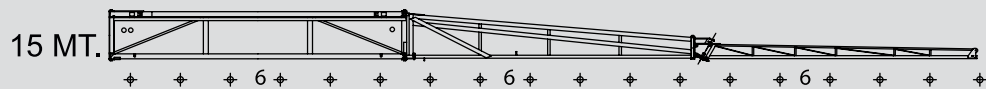
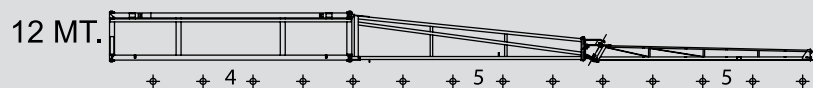


BDM

	BDM				
	12m	15m	16m	18m	20m
A (mm)	2450	3000	3000	3000	3000
B (mm)	530	530	530	530	530
C (mm)	580	580	580	580	580
Kg	131	135	187	194	201



Self-levelling device Special WITH/  
WITHOUT cable control from the cab



**Manual booms BDM**



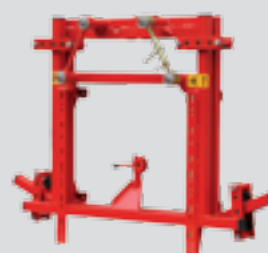


BDI

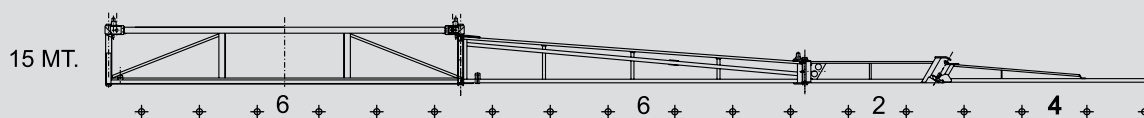
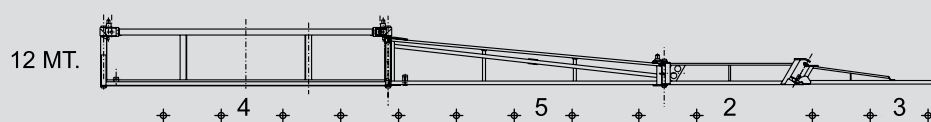
# Hydraulic booms BDI



	BDI	
	12m	15m
A (mm)	2450	3000
B (mm)	530	530
C (mm)	570	570
Kg	192	221



Self-levelling device Special WITH/WITHOUT cable control from the cab

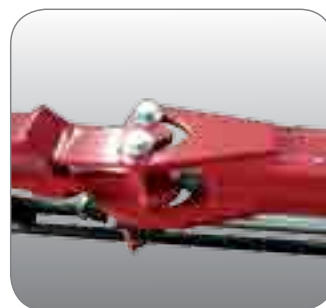
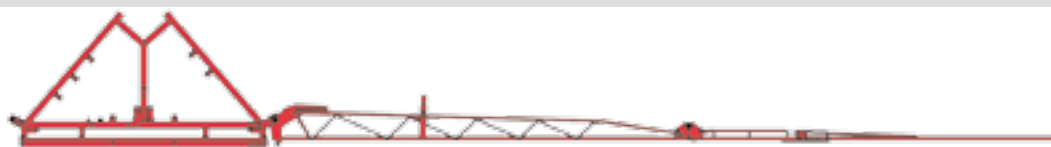
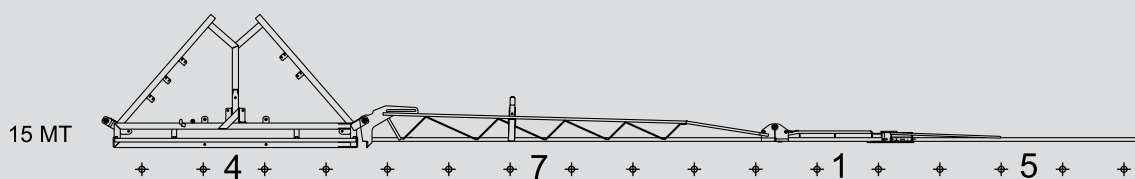
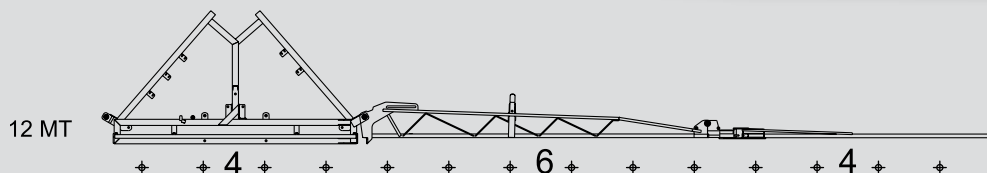




BDX



	BDX	
	12m	15m
A (mm)	2450	2500
B (mm)	350	350
C (mm)	2420	2900
Kg	240	265



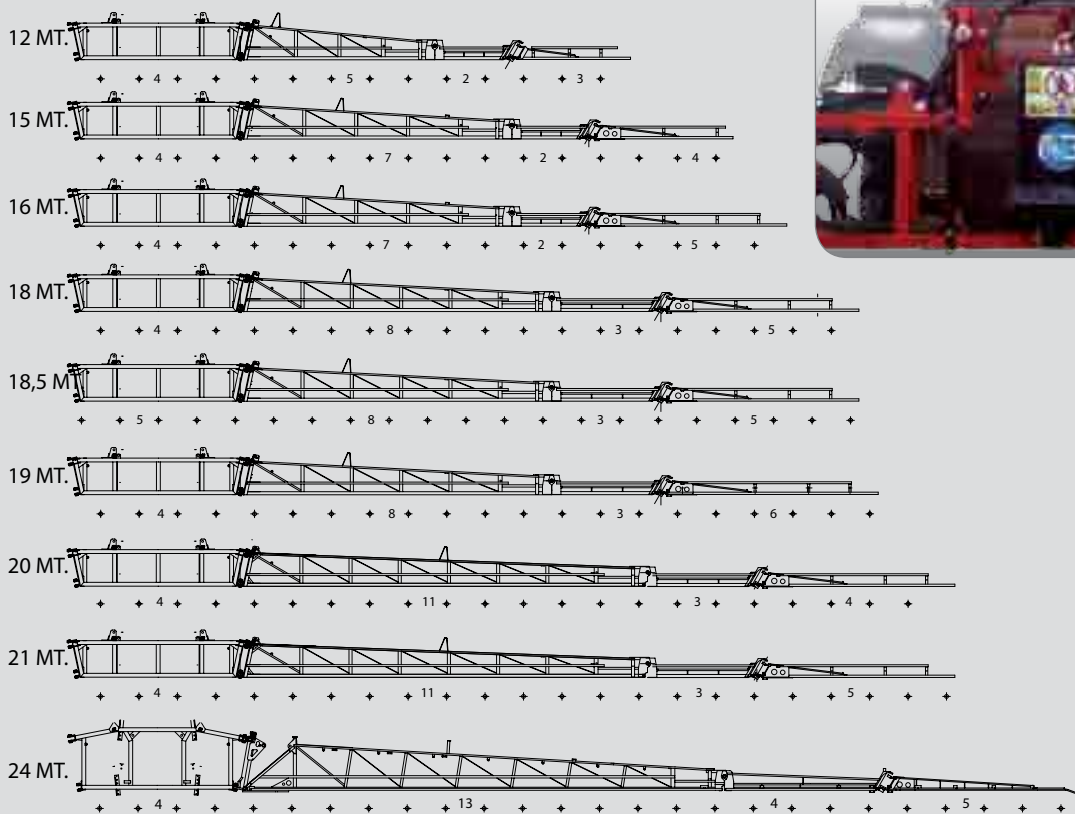
**Hydraulic booms BDX**







BDLA (BDL AIR)



**Hydraulic booms BDLA - BDL AIR**



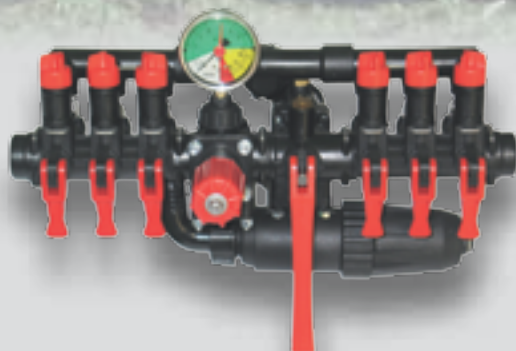
optional G-VAR











# Water control units



The water control unit regulates the quantity of product to be distributed: both manual and electric devices require the user intervention.

With the manual control unit, the general valve and the water sections are manually regulated. With the control unit with electric On/Off, the general water switching-on/off is electrically regulated, while the single water sections are manually controlled.

The totally electric control unit enables the electrical regulation of both the general valve and water sections.

Water control unit	Model	Main valve (ON/OFF)	Pressure control valve	Boom section valves	Adjustable backflow	Line filter
 <small>*Optional only on machines without CE declaration</small>	UCM Costant pressure distribution (DPC)	MANUAL	-	MANUAL	-	-
	IDROMINUS Manual control unit (DPMI)	MANUAL	MANUAL	MANUAL	YES	YES
	ELECTRIC ON/OFF Proportional control unit (DPMI)	ELECTRIC	MANUAL	MANUAL	YES	80MESH
	TOTALLY ELECTRIC Proportional control unit (DPMI)	ELECTRIC	ELECTRIC	ELECTRIC	YES	80MESH



Manual control unit UCM



Control unit with electric On/Off



Electric control unit with electric valves



Water sections electrovalves

The use of electronic devices is significantly important to enable an automatic and accurate homogeneous chemical application and to avoid waste.

The right choice of an electronic control device ensures considerable economical and practical advantages.

For its land working machines, BARGAM has always offered the best solutions available worldwide, in order to meet the needs of its customers.

Every **Spray Computer** (see table below) can control the quantity (l/ha) sprayed on the area being treated.

If the spray rate is pre-set, the Computer monitors auto-

matically the pressure in relation to the current speed to ensure a constant spray.

Also in case of partial closure of the boom sections, the computer maintains a homogeneous spray.

The **Spray Computer** shows the following machine data:

- spray liquid liter/hectare
- spray liquid liter/minute
- spray liquid liters
- total spray liquid liters
- treated area
- total treated area
- current speed
- total covered distance



Standard






S-Plus



Bargam

## The range of Spray Computers and the available

		Water sections max	Hydraulic sections max
	Standard	7	-
	S-plus	7	4 sing.
	Bargam	9	9



Teejet centerline



Track guide with maps

### Satellite guide monitor with external receiver

They are easily installed on every kind of tractor independently from the water control system installed on the sprayer.



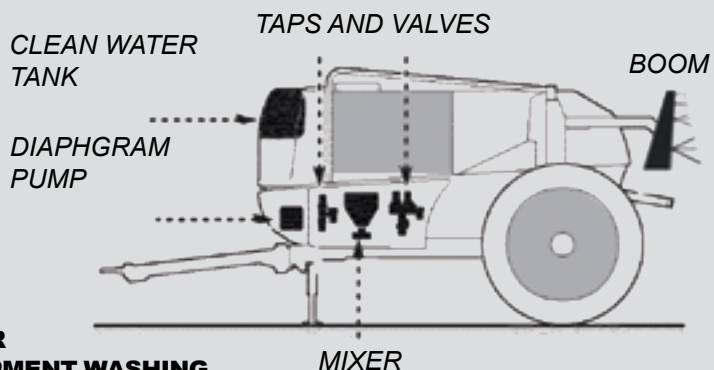


# Water system

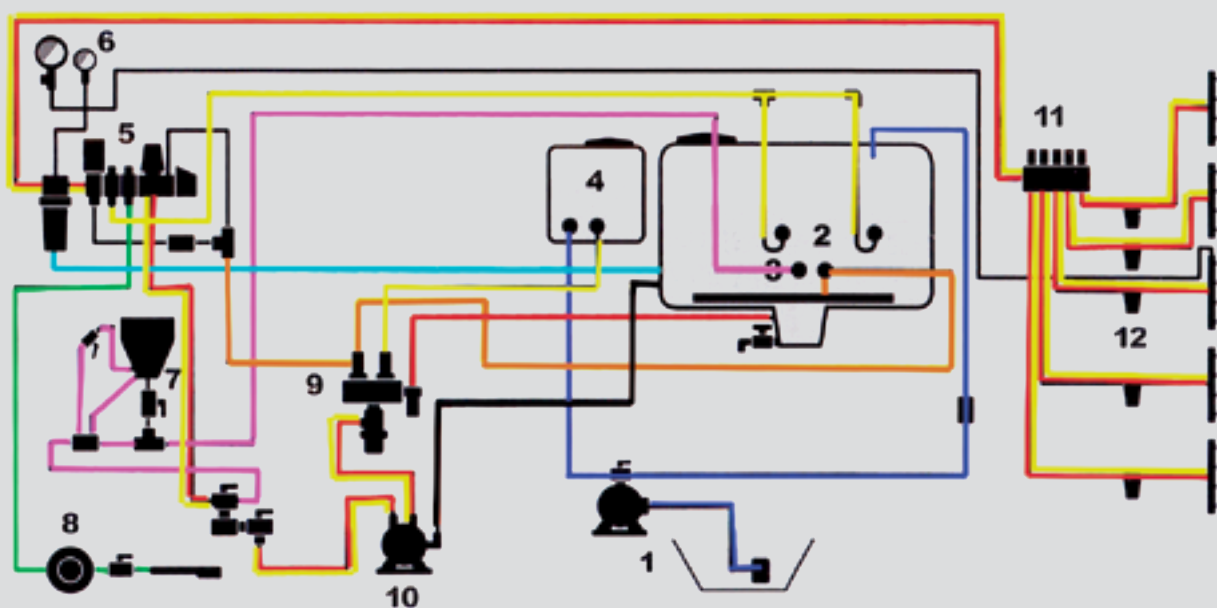


## Water system

The standard water system supplied already complete in its basic configuration can be complemented with Optional accessories. Bargam designers have optimized the system pipelines and componentry in order to ensure the highest water flow rates with minimized final residues.



- |                                |                                 |
|--------------------------------|---------------------------------|
| <b>1 – SPRAYER FILLER PUMP</b> | <b>7 – MIXER</b>                |
| <b>2 – TANK WASHER</b>         | <b>8 – EQUIPMENT WASHING</b>    |
| <b>3 – STIRRING SYSTEM</b>     | <b>9 – MAIN TAPS AND VALVES</b> |
| <b>4 – CLEAN WATER TANK</b>    | <b>10 – DIAPHRAGM PUMP</b>      |
| <b>5 – MAIN CONTROL VALVE</b>  | <b>11 – SECTOR VALVES</b>       |
| <b>6 – PRESSURE GAUGES</b>     | <b>12 – IN-LINE FILTERS</b>     |



- |                     |                     |                |                        |
|---------------------|---------------------|----------------|------------------------|
| — Filling Up        | — Working           | — Safety valve | — Self-cleaning filter |
| — External cleaning | — Internal cleaning | — Mixer        | — Agitation            |



## AIRASSISTED is a device for 12 to 24m BDLA booms

### Advantages

This device makes it possible to work also in 6/8 mVsec strong winds, making the machine less dependent on surrounding weather conditions.

**Drift is minimized to virtually zero levels** (reduced by 90% in most treatment cases).

An air thrust up to 32 mVsec ensures **good penetration also in tall crops** or thick foliage crops spraying is increased by as much as 8/10 times, enhancing the effectiveness of the delivered products; this enables to **reduce the cost of chemicals by 30/50%**.

By reducing the litres per hectare used, **the machine working range dramatically increases, resulting in time and money savings.**

The AIR- ASSISTED flow control system can also be used when **only half of the boom is unfolded.**

**The air flow/air rate can be adjusted from the driver's control seat.**

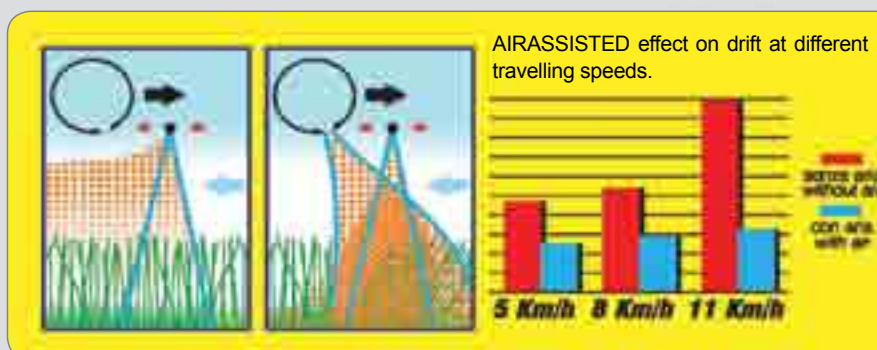
Working without air is also a possibility



*left:* turbine for 12 to 24 m booms

*lower left:* oil tank BDLA

*lower right:* turbine cooler BDLA







	IRIS	ELIOS	ELIOS RISO
Main tank lt	1700 - 2200 - 2700	2200 - 2700 - 3000	2200 - 2700
Clear water tank	Compulsory for EC directive*	•	•
Clothes holder	•	•	•
Low pressure pump lt/min	130 - 160 - 180 - 250	131 - 160 - 180 - 250	250
30 lt Mixer with spring assisted mobile support	o	o	•
Standard drawbar	Tracking drawbar (•)	Tracking drawbar (•)	Fixed drawbar with adjustable height D=35mm
Height adjustment	1000 mm with manual winch (back-folding booms) 1200/1500 mm Hydraulic (BDL booms)	1000 mm with manual winch (back-folding booms) 1200/1500 mm Hydraulic (BDL/BDLA/BDLAIR)	1200 mm hydraulic
Self-levelling device	Different options depending on boom/machine equipment	Different options depending on boom/machine equipment	• with cable locking o hydraulic
Standard water control unit	Manual proportional 5 way** (BDL)	Manual proportional 5 way** (BDL/BDLA/BDLAIR)	Electrical proportional 5 way
H2O + OIL Computer	o	o	o
Variable track axle	1400/1800 – 1800/2100 (by reversing the wheels)	1400/1800 – 1800/2100 (by reversing the wheels)	1600/2200 – 1900-2500 (by reversing the wheels)
Variable geometry	o	o	o
Airassisted	-	o	o
ECO BDM	-	✓	-
BDM	✓	✓	-
BDI	✓	✓	-
BDX	✓	✓	-
BDL	✓	✓	✓
BDLA	-	✓	o

\* It is possible to have a machine without CE declaration by simply not choosing the optional  
 \*\* Minimum compulsory requirement in all machines with CE declaration

• standard  
 o optional

Jesi (AN)



Imola (BO)



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