

LOCHMANN 
sprayer innovation

TRACTOR MOUNTED SPRAYERS



The outstanding quality of the new tractor mounted sprayers from Lochmann Plantatec is the result of over 60 years of practical experience, the application of state-of-the-art technologies, the use of high-quality materials and a strict quality control during the manufacturing process.

Both the robust construction, which is in line with the strictest quality standards, and the clever modular design provide the user with a wide range of different sprayers adapted to all areas of fruit production and viticulture. The compact construction and the consequent limited overall dimensions allow the sprayers to be used in confined spaces.

The design of the polyethylene tank of the new APS series is outstanding in every respect. Our many years of experience have made it possible to design and manufacture a tank which is unique down to the last detail. In our philosophy filling and emptying the tank should be both user-friendly and environmentally sound. Therefore the large inlets can be reached with ease, there is sufficient extra volume, emptying the tank is optimal, even on slopes, with minimal residue. A ball valve for emptying the tank is to be found on the side of the tank. State-of-the-art welder robots manufactured the torsion resistant frame from section steel, with integrated lube guards.

The steel frame, developed with modern techniques and built on a robotized system is entirely hot-dip galvanized and therefore absolutely protected from corrosion. Its "sled construction" with the strong metal protection sheet under the fan, makes possible a close use to the ground, if necessary also the dragging on the ground. There is still enough space under the fan for safe use even on steeply sloping fields.



AGITATOR AND TANK

The tube-shaped tank contains a low pressure agitator. This guarantees a perfectly mixed spray mixture, even with low pressure and a high chemical content. The low pressure agitator, the very smooth inner surface and the well-designed shape of the tank prevent chemical residue in the tank. These properties facilitate the cleaning process and prevent unnecessary residual spray mixture.



SUCTION FILTER

The suction filter with its large filter surface is easily accessible for the operator. Additionally it has been equipped with a three-way valve which makes it possible to clean the filter even when the tank is full. The operator can empty the tank easily and efficiently using the ball valve.

APS 3/80 UQ
325 lt



APS 4/80 U
430 lt



APS 5/90 QB
530 lt





CONTROLS

The sprayer can be fitted with electric controls which open and close the nozzles of fast switching electromagnetic valves. These brass valves meet the highest quality standards and function perfectly up to an operating pressure of 50 bar. They are long-lived and maintenance-free due to their simple construction. Pressure control is effected by means of a time-tested brass pressure regulator which is driven by a linear activator. The perfect insulation of all electrical components prevents the otherwise usual damages or contact problems caused by corrosion when working under extreme conditions. This control mechanism can be operated by means of a computer operated metering control, which provides an exact digital display of the tank contents.



TANK LOAD INDICATOR

The exact reading of the tank contents is made possible by the tank load indicator which is clearly visible both from the driver's seat and from the side when filling the tank.



DIAPHRAGM PUMP

The three-diaphragm pump with a capacity of 70 to 96 l/min (50 bar) provides a balanced and constant water flow even at low pressure. All components carrying spray liquid consist of high-quality brass or stainless steel and are extremely resistant to acids. The micro pressure-filter can be equipped with a continuous cleaning system, so that maintenance intervals can be longer even with very small mesh sizes. Such a filter system guarantees the perfect working of the injector nozzles.



NOZZLES

The twin and triple headed swivel nozzles are made of brass and are fitted with Vailton anti-drip diaphragms. They have been installed outside the airflow and can be individually positioned.

APS 5/80 UQ
530 lt



APS 5/90 UQ
530 lt





FAN COVERS

The new fans can be fitted with covers on one or both sides, making it possible to switch off the airflow independently. In this way drifting is substantially reduced and non-target organisms are protected. The covers can be operated manually and automatically, in combination with the nozzles. The cleverly designed fast folding mechanism folds the covers away behind the fan. In this way the total length of the sprayer remains the same.



MIXING BASKET AND BOTTLE WASHER

The mixing basket with volumes of 18 and 30 litres respectively with its rotating injector nozzle ensures the efficient and safe mixing of powdered plant protection products. The bottle washer makes it possible to clean empties easily and thoroughly.

APS 6/80 UQW
635 lt



APS 6/90 UQH
635 lt



TRACTOR MOUNTED SPRAYERS: BP SERIES

The tractor mounted sprayers of the BP series have been developed by Lochmann Plantatec for the application of herbicides and all other plant protection products. The unit consists of a polyethylene container with a clean water tank for cleaning, a hot dip galvanized steel frame (see the APS series of sprayers), as well as a vibration damped three membrane pump, which provides both a constant and a large flow rate even at low speeds. The controls are easily accessible from the driver's seat and a return flow agitator provides a uniform spray mixture.



CONTROL VALVE

The control valve with three outlets comes equipped with an integrated low pressure regulator.



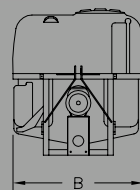
HAND AND CIRCUIT CLEANING TANKS

The sprayer has a large hand-cleaning tank (17 litres), which is very important because the skin can now be cleaned quickly after contact with plant protection agents. In addition the sprayer has a circuit cleaning tank, which enables optimum circuit and nozzle cleaning. Moreover the outside of the sprayer can now be cleaned in the field, as prescribed by law.

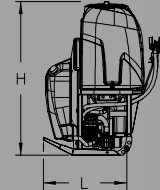
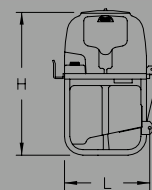
Circuit Cleaning Tank Volume:
APS 2-3: 35 l
APS 4-5-6: 48 l

Circuit Cleaning Tank Volume BP:
BP 2-6: 48 l

MODEL	TANK VOLUME l	PUMP PERFORMANCE l/min ; bar	NO. OF MEMBRANES	TARE Kg	L m	H m	W m
BP 200	220	105 l/min ; 20 bar	3	125	0,76	1,14	0,86
BP 300	325	105 l/min ; 20 bar	3	130	0,76	1,41	0,86
BP 400	430	105 l/min ; 20 bar	3	125	0,78	1,15	1,20
BP 500	530	105 l/min ; 20 bar	3	130	0,78	1,22	1,20
BP 600	635	105 l/min ; 20 bar	3	135	0,78	1,33	1,20



Tank
400-500-600 l



Tank
200-300 l

BP 600
635 l

BP 500
530 l

BP 400
430 l

BP 300
325 l

BP 200
220 l



Cooperation of the Regions for Fan Testing
Protocol Fan Testing
 Based on Measurements before Alterations



Testing Institution
 Lochmann Plantatec GmbH/Srl
 Vilpianerstr. / Via Vilpiano 42
 39010 Nals / Nalles (BZ)

Fan Testing
Date of testing: 28.05.2020 09:33:45
Protocol ID: Loch_W 000062
Seal of approval:
Tester: Höller

Owner of Sprayer

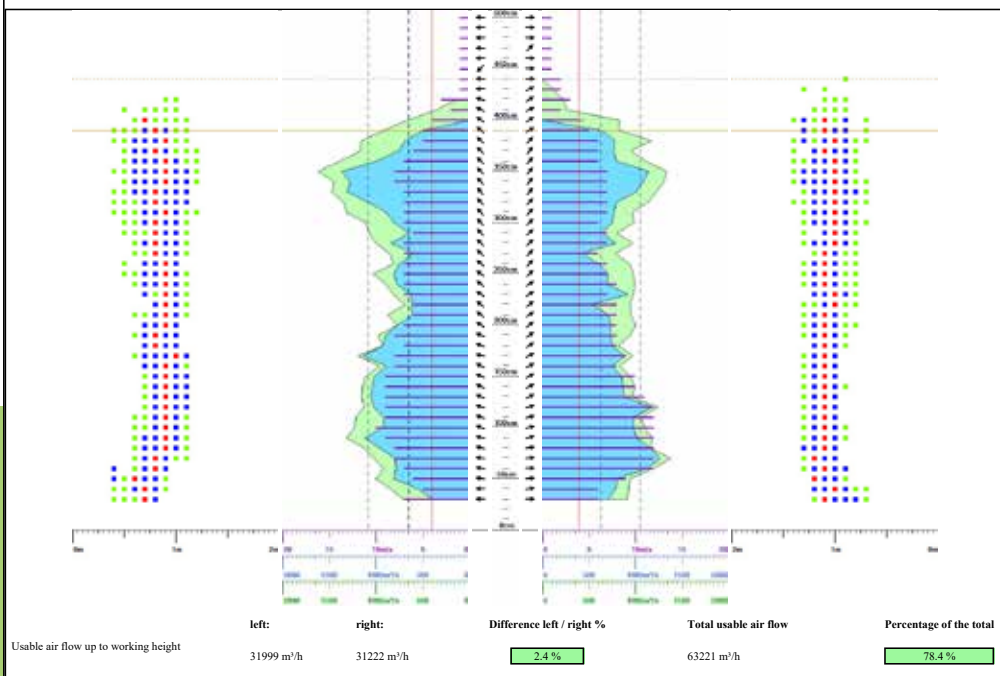
Sprayer	
Sprayer type:	Lochmann APS 6/90UQH 2
Serial number:	013851
Year of manufacture:	2020
Fan type:	90UQH2
Air distribution calculated with:	vx (horizontal fraction)
Working height:	3.9 m (Threshold value: 4.0 m/s)
Angle of air flow at 3.9 m:	41° left; 32° right
Fan Type:	Cross flow fan
Test Result:	Passed

Fan Setting

Test speed (PTO):	450 rpm
Fan gear:	2
Test speed (fan) ^{*)}:	1669 rpm
Measuring distance:	1.5 m

^{*)} Please note: The test speed (fan speed and PTO speed respectively) is used only for air distribution measurements and adjustments and may only accidentally be consistent with the fan speed required in an orchard! Fan speed in an orchard has to be adapted to canopy width at any forward speed!

← left section (in driving direction) right section (in driving direction) →



Threshold Values Air Distribution		Legend	
Threshold ambient air	1.5 m/s	Target height of limitation of air flow	-----
Number of measuring points / measuring height ≥ with a minimum air speed of	2.0	Maximum working height	-----
results in minimum usable air flow / measurement height	4.0 m/s	Maximum air speed measured	-----
Maximum percentage per section out of tolerance range	144 m ³ /h	Corridor of measured mean usable air flow within tolerance range ± 25.0 %	-----
	35.0 %	Minimum air speed of usable air flow (4.0 m/s)	-----
		Measured angle of air flow	→
			→

BLOWER

All blower types have been designed using our state-of-the-art in-house test bench. The results of our tests show that both the speed and the volume of the air stream which hits the plant is equal everywhere: top and bottom, left and right. This uniform distribution of air has improved the application of liquids to the plants and substantially reduced drifting. This new rectangular distribution of air has considerably increased the efficiency of the blower: the force adsorption has been halved, noise has been reduced, fuel consumption has been substantially reduced and the CO2 balance and the energy efficiency have been much improved. An orchard with row spacings of 3.2 meters and a tree height of 4.00 meters can now be treated effectively at a speed of 7.2 km/h and a force absorption of the blower system of less than 10 hp. The two speed gearbox with idling mode, together with the eight sickle-shaped fan blades enable the highest and the lowest air volumes in the ideal speed range of the tractor. The blower frame has been hot-dip galvanized and is therefore ideally protected against corrosion.

HYDRAULICALLY ROTATING BLOWER

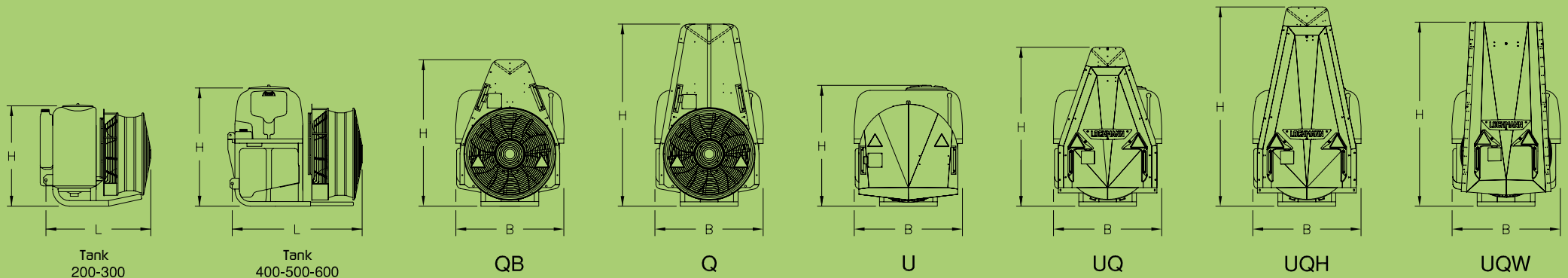
The hydraulic rotating mechanism, fitted with ball-bearings, is tightly sealed and low maintenance. It is integrated in the blower and therefore does not increase the length of the sprayer.



MODEL	PUMP PERFORMANCE L/min ; bar	AIR PERFORMANCE m³/h	POWER ABSORPTION Kw/Cv	NUMBER OF NOZZLES	TARE Kg	L m	H m	W m	FAN ø mm
APS 2/70 - AP 2/28	70 ; 40	40.000	16/22	12	260	1,08	1,09	0,93	700
APS 2/70 U	70 ; 40	36.000	15/21	12	275	1,21	1,09		
APS 2/70 UQW	70 ; 40	36.000	15/21	12	290	1,20	2,00		
APS 3/70 - AP 3/28	70 ; 40	40.000	16/22	12	262	1,08	1,18	1,15	800
APS 3/70 U	70 ; 40	36.000	15/21	12	287	1,21	1,18		
APS 3/70 UQW	70 ; 40	36.000	15/21	12	292	1,20	2,00		
APS 3/80 - AP 3/32	70 ; 40	60.000	29/39	14	262	1,11	1,18	1,15	800
APS 3/80 Q	70 ; 40	60.000	29/39	14	302	1,11	2,00		
APS 3/80 QB	70 ; 40	60.000	29/39	14	294	1,11	1,69		
APS 3/80 U	70 ; 40	54.000	27/37	14	264	1,24	1,18	1,20	700
APS 3/80 UQ	70 ; 40	54.000	27/37	16	309	1,23	2,01		
APS 3/80 UQW	70 ; 40	54.000	27/37	14	314	1,22	2,00		
APS 4/70 UQW	96 ; 50	36.000	19/26	14	308	1,43	2,04	1,20	800
APS 4/80 - AP 4/32	96 ; 50	60.000	30/41	14	274	1,34	1,15		
APS 4/80 Q	96 ; 50	60.000	30/41	14	314	1,34	2,03		
APS 4/80 QB	96 ; 50	60.000	30/41	14	306	1,34	1,73	1,20	800
APS 4/80 U	96 ; 50	54.000	29/39	14	276	1,48	1,15		
APS 4/80 UQ	96 ; 50	54.000	29/39	16	321	1,47	2,04		
APS 4/80 UQW	96 ; 50	54.000	29/39	14	326	1,45	2,04	1,20	900
APS 4/90 - AP 4/36	96 ; 50	88.000	36/49	16	284	1,37	1,15		
APS 4/90 Q	96 ; 50	88.000	36/49	16	324	1,37	2,03		
APS 4/90 QB	96 ; 50	88.000	36/49	16	316	1,37	1,63	1,20	900
APS 4/90 U	96 ; 50	78.000	34/46	16	286	1,47	1,17		
APS 4/90 UQ	96 ; 50	78.000	34/46	16	326	1,50	1,77		
APS 4/90 UQH	96 ; 50	78.000	34/46	18	348	1,49	2,22		

MODEL	PUMP PERFORMANCE L/min ; bar	AIR PERFORMANCE m³/h	POWER ABSORPTION Kw/Cv	NUMBER OF NOZZLES	TARE Kg	L m	H m	W m	FAN ø mm
APS 5/70 UQW	96 ; 50	36.000	19/26	14	313	1,43	2,04	1,20	700
APS 5/80 - AP 5/32	96 ; 50	60.000	30/41	14	279	1,34	1,26		
APS 5/80 Q	96 ; 50	60.000	30/41	14	319	1,34	2,03		
APS 5/80 QB	96 ; 50	60.000	30/41	14	311	1,34	1,73	1,20	800
APS 5/80 U	96 ; 50	54.000	29/39	14	281	1,48	1,26		
APS 5/80 UQ	96 ; 50	54.000	29/39	16	326	1,47	2,04		
APS 5/80 UQW	96 ; 50	54.000	29/39	14	331	1,45	2,03	1,20	900
APS 5/90 - AP 5/36	96 ; 50	88.000	36/49	16	289	1,37	1,26		
APS 5/90 Q	96 ; 50	88.000	36/49	16	329	1,37	2,03		
APS 5/90 QB	96 ; 50	88.000	36/49	16	321	1,37	1,63	1,20	900
APS 5/90 U	96 ; 50	78.000	34/46	16	291	1,47	1,26		
APS 5/90 UQ	96 ; 50	78.000	34/46	16	331	1,50	1,77		
APS 5/90 UQH	96 ; 50	78.000	34/46	18	353	1,49	2,22	1,20	700
APS 6/70 UQW	96 ; 50	36.000	19/26	14	318	1,44	2,03		
APS 6/80 - AP 6/32	96 ; 50	60.000	30/41	14	284	1,34	1,40		
APS 6/80 Q	96 ; 50	60.000	30/41	14	324	1,34	2,03	1,20	800
APS 6/80 QB	96 ; 50	60.000	30/41	14	316	1,34	1,73		
APS 6/80 U	96 ; 50	54.000	29/39	14	286	1,48	1,40		
APS 6/80 UQ	96 ; 50	54.000	29/39	16	331	1,47	2,04	1,20	900
APS 6/80 UQW	96 ; 50	54.000	29/39	14	336	1,45	2,03		
APS 6/90 - AP 6/36	96 ; 50	88.000	36/49	16	294	1,37	1,40		
APS 6/90 Q	96 ; 50	88.000	36/49	16	334	1,37	2,03	1,20	900
APS 6/90 QB	96 ; 50	88.000	36/49	16	326	1,37	1,63		
APS 6/90 U	96 ; 50	78.000	34/46	16	296	1,47	1,40		
APS 6/90 UQ	96 ; 50	78.000	34/46	16	336	1,50	1,77	1,20	900
APS 6/90 UQH	96 ; 50	78.000	34/46	18	358	1,50	2,22		

The air volume specified corresponds to the air from the blower (horizontal component only) which, at a speed of more than 4 m/sec, hits the leaves of the plants with a row distance of 3,0 metres and at 75% of the maximum fan speed. Subject to change - All data are approximate.





LOCHMANN PLANTATEC GMBH

Vilpianerstraße 42
I-39010 NALS (BZ)
Tel.: +39 0471 678 100
Fax: +39 0471 678 078
info@plantatec.it
www.plantatec.it

