



The Growers World

Product catalog 2021



All AMN nozzles can be mounted directly on 12 mm stainless steel or polymer pipe.
Patented mounting solution for all our nozzles – Patent no.: BR 2013 00022

<u>Capacity (bar)</u>	<u>Capacity (psi)</u>	<u>Colour identification</u>
0,15 mm, 50 bar = 2,5 l/h H ₂ O	0,15 mm, 725 psi = 0,66 GPH H ₂ O	Black
0,15 mm, 70 bar = 3,0 l/h H ₂ O	0,15 mm, 1015 psi = 0,79 GPH H ₂ O	Black
0,2 mm, 50 bar = 3,5 l/h H ₂ O	0,2 mm, 725 psi = 0,92 GPH H ₂ O	Green
0,2 mm, 70 bar = 4,0 l/h H ₂ O	0,2 mm, 1015 psi = 1,06 GPH H ₂ O	Green
0,3 mm, 50 bar = 5,5 l/h H ₂ O	0,3 mm, 725 psi = 1,45 GPH H ₂ O	Red
0,3 mm, 70 bar = 6,5 l/h H ₂ O	0,3 mm, 1015 psi = 1,72 GPH H ₂ O	Red
0,4 mm, 50 bar = 8,5 l/h H ₂ O	0,4 mm, 725 psi = 2,25 GPH H ₂ O	Black
0,4 mm, 70 bar = 10 l/h H ₂ O	0,4 mm, 1015 psi = 2,64 GPH H ₂ O	Black

Recommended max. operating pressure

Industrial applications	:	> 1000 hours/year @ max. 50 bar (725 psi)
Agriculture applications	:	< 1000 hours/year @ max. 70 bar (1015 psi)
Hydraulic test pressure	:	210 bar (3045 psi).

Main materials

Stainless steel AISI 316 (some few details AISI 304)
Special hi-pressure resistant polymer
Nickel plated bronze/brass

Nozzle mounting tools

AMN2 = 15 mm spanner wrench
AMN4 = Torx 25 screwdriver

AMN2 nozzles

Integrated with filter and recommended if using normal tap water.

AMN4 nozzles

Without filter and used when combined with osmosis system or high level of water quality.

If you want more information, please send an e-mail to: contact@thegrowersworld.com



Nozzles

AMN2 024 Nozzle assembled 0,15 of A2 (black) Packing 50/500 pcs.	
AMN2 004 Nozzle assembled 0,2 of A2 (green) Packing 50/500 pcs.	
AMN2 003 Nozzle assembled 0,3 of A2 (red) Packing 50/500 pcs.	
AMN2 023 Nozzle assembled 0,4 of A2 (black) Packing 50/500 pcs.	
AMN2 002 Nozzle assembled 0,2 of SS/NP brass (green) Packing 50/500 pcs.	
AMN2 001 Nozzle assembled 0,3 of SS/NP brass (red) Packing 50/500 pcs.	
AMN2 021 Nozzle assembled 0,4 of SS/NP brass (black) Packing 50/500 pcs.	

AMN1 011 Nozzle bushing 0,15 of A2 (black) (with integral filter element) Packing 100 pcs.	
AMN1 009 Nozzle bushing 0,2 of A2 (green) (with integral filter element) Packing 100 pcs.	
AMN1 008 Nozzle bushing 0,3 of A2 (red) (with integral filter element) Packing 100 pcs.	
AMN1 028 Nozzle bushing 0,4 of A2 (black) (with integral filter element) Packing 100 pcs.	
AMN1 007 Nozzle bushing 0,2 of SS/NP brass (green) (with integral filter element) Packing 100 pcs.	
AMN1 006 Nozzle bushing 0,3 of SS/NP brass (red) (with integral filter element) Packing 100 pcs.	
AMN1 026 Nozzle bushing 0,4 of SS/NP brass (black) (with integral filter element) Packing 100 pcs.	
AMN1 010 Nozzle bushing w/plug of A2 (black) Only nozzle tip and head, without check valve/anti drip and no filter Packing 100 pcs.	
AMN1 050 Integral nozzle filter element Packing 100/1000 pcs.	

AMN4 024 Nozzle assembled 0,15 of A2 (black) Packing 50/400 pcs.	
AMN4 004 Nozzle assembled 0,2 of A2 (green) Packing 50/400 pcs.	
AMN4 003 Nozzle assembled 0,3 of A2 (red) Packing 50/400 pcs.	
AMN4 023 Nozzle assembled 0,4 of A2 (black) Packing 50/400 pcs.	
AMN4 030 Nozzle assembled w/plug of A2 (black) Packing 50/400 pcs.	
AMN4 002 Nozzle assembled 0,2 of SS/NP brass (green) Packing 50/400 pcs.	
AMN4 001 Nozzle assembled 0,3 of SS/NP brass (red) Packing 50/400 pcs.	
AMN4 021 Nozzle assembled 0,4 of SS/NP brass (black) Packing 50/400 pcs.	



AMN2 501 Drilling tool For easy positioning and drilling of holes. Incl. 2 pcs. 3 mm drill. Design protected. Packing 1 pc.	
AMN 505 Drill 3 mm Special drill for stainless steel with gold plated tip. Packing 10 pcs.	
AMN 506 Tool for nozzle For mounting of nozzle in nozzle guide bushing Packing 1 pcs.	



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Pipes and fittings

AMN 301 Pipe 12 mm A4 (AISI 316 – Ø12 x 0,6 mm – one pipe = 6 meter) Packing 120 meter (20 x 6 meter) Full export carton 3600 meter (600 x 6 meter) – 625x40x45 cm – GW 717 kg	
AMN 302 Pipe 12 mm polymer Inside diameter 6 mm Packing 200 meter/roll – approx. 20 kg and diameter of 1,2 meter	
AMN 303 Press equal coupling 12 mm A4 Packing 20 pcs.	
AMN 304 Press equal Tee 12 mm A4 Packing 20 pcs.	
AMN 305 Press elbow 90 degrees 12 mm A4 Packing 20 pcs.	
AMN 306 Press inside bushing SS/NP brass + ring 12 mm A2 To be mounted inside the 12 mm nylon pipe + ring outside. => Press fitting and nylon pipe connected. Test pressure > 210 bar. Patent no.: BR 2013 00023 Packing 100 pcs.	
AMN 306X Press inside bushing - brass To be used when connecting polymer pipes with screw fittings. Packing 100 pcs.	

AMN 307 Press transition ¼ BSP 12 mm A4 Packing 20 pcs.	
AMN 330 Screw fitting equal 12 mm A4 Packing 20 pcs.	
AMN 331 Screw fitting elbow 12 mm A4 Packing 20 pcs.	
AMN 332 Screw fitting equal Tee 12 mm A4 Packing 20 pcs.	
AMN 333 Screw fitting transition ¼" to 12 mm A4 Packing 20 pcs.	
AMN 320 Plug ¼" BSP male, SS/NP brass, nickel plated Packing 20 pcs.	
AMN 321 Socket ¼" BSP female, SS/NP brass, nickel plated Packing 20 pcs.	
AMN 322 Reducer ¼" to conical 3/8" SS/NP brass, nickel plated Packing 20 pcs.	
AMN 323 Reducer ¼" to conical 1/2" SS/NP brass, nickel plated Packing 20 pcs.	

AMN30 212 Pipe hanger 12 H30 (black) Patent no. BR 2013 00027 Design registration DR 2012 00012 Packing 100/500 pcs.	
AMN 350 Press ball valve bronze 12 mm Nickel plated surface. SS 304 handle and ball. Packing 5/50 pcs.	
AMN 351 Press ball valve bronze 12 mm / ½” hose connector Nickel plated surface. SS 304 handle and ball. Packing 5/50 pcs.	
AMN 352 Ball valve bronze ¼” BSP / ¼” BSP Nickel plated surface. SS 304 handle and ball. Packing 5 pcs.	
AMN 353 Ball valve bronze ¼” BSP / ½” hose connector Nickel plated surface. SS 304 handle and ball. Packing 5 pcs.	
AMN 360 Solenoid valve 230 Vac 400 l/h (50/60 Hz) AMN 361 Solenoid valve 110 Vac 400 l/h (50/60 Hz) AMN 362 Solenoid valve 24 Vac 400 l/h (50/60 Hz) AMN 363 Solenoid valve 24 Vdc 400 l/h With ¼” BSP thread - Orifice 2 mm SS 316. - Kv 2 L/min with 1 bar. – (400 l/h => pressure drop at about 10 bar) - 5 mtr. wire, SS washer and nut. Viton rubber. IP65. Nickel plated surface. Operating pressure max 80 bar. Packing 1 pcs.	 Ask for 16 bar solenoid valve, orifice 4,5 mm – Kv 6 (360 l/h => pressuredrop at 1 bar)  Plunger as sparepart

AMN 502 Bending tool 12 mm Bending with a special and “big” radius R60 mm for stainless steel pipe. Design registration DR 2012 00012 Packing 1 pcs.	
AMN 503 Pressing tong 12 mm – hand tool Made with a new design for ¼ of manpower. <i>(based on the REMS pressing tong model V12, Rems nr. 570107 – modified for AMN Misting)</i> Patent no. BR 2012 00028 Design registration DR 2012 00012 Packing 1 pcs.	
AMN 507 Pipe cutter (REMS no. 113300) Packing 1 pcs.	
AMN 508 Wheel for pipe cutter (REMS no. 113210) Packing 1/10 pcs.	
AMN 513 Mini press machine set, accu (REMS) (REMS no. 578012) Incl. 1 pcs. 1,5 Ah battery (REMS no. 578012-incl.) 1 pcs. 3,0 Ah battery (REMS no. 571555) 1 pcs. press jaw V12 (REMS no. 578324) – <i>modified for AMN Misting</i> 1 pcs. hardcase for easy storage (REMS no. 578012-incl) Packing 1 pcs.	



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Collections and combinations

AMN 801 Press pipe end, plug AMN 307 + AMN 320 + AMN 321 Packing 20 pcs.	
AMN 802 Press to 3/8" conical AMN 307 + AMN 322 Packing 20 pcs.	
AMN 803 Press to 1/2" conical AMN 307 + AMN 323 Packing 20 pcs.	
AMN 811 Screw pipe end, plug AMN 333 + AMN 320 + AMN 321 Packing 20 pcs.	
AMN 812 Screw to 3/8" conical AMN 333 + AMN 322 Packing 20 pcs.	
AMN 813 Screw to 1/2" conical AMN 333 + AMN 323 Packing 20 pcs.	

AMN 852 Ball valve, 12 mm screw, ½” hose connector AMN 353 + AMN 333 Packing 5 pcs.	
AMN 853 Ball valve, 2 x 12 mm screw AMN 352 + AMN 333 x 2 Packing 4 pcs.	
AMN 860 Solenoid valve 230 Vac, 2 x Press (AMN 360 + AMN 307 x 2) AMN 861 Solenoid valve 110 Vac, 2 x Press (AMN 361 + AMN 307 x 2) AMN 862 Solenoid valve 24 Vac, 2 x Press (AMN 362 + AMN 307 x 2) AMN 863 Solenoid valve 24 Vdc, 2 x Press (AMN 363 + AMN 307 x 2) Packing 1 pc.	
AMN 870 Solenoid valve 230 Vac, 2 x Screw (AMN 360 + AMN 333 x 2) AMN 871 Solenoid valve 110 Vac, 2 x Screw (AMN 361 + AMN 333 x 2) AMN 872 Solenoid valve 24 Vac, 2 x Screw (AMN 362 + AMN 333 x 2) AMN 873 Solenoid valve 24 Vdc, 2 x Screw (AMN 363 + AMN 333 x 2) Packing 1 pc.	

AMN 880 Solenoid valve, bleed-off 230 Vac, Press fitting For decentralized bleed-off (more sections). (AMN 360 + AMN 307 + AMN 304 + Hose connection and clamp) Packing 1 pc.	
AMN 881 Solenoid valve, bleed-off 230 Vac, Screw fitting For decentralized bleed-off (more sections). (AMN 360 + AMN 333 + AMN 332 + Hose connection and clamp) Packing 1 pc.	
AMN 882 Pressure gauge 100 bar Tee x Press fitting For showing decentralized pressure - big systems and more sections. (Pressure gauge + AMN 307 x 2 + Tee) Packing 1 pc.	
AMN 883 Pressure gauge 100 bar Tee x Screw fitting For showing decentralized pressure - big systems and more sections. (Pressure gauge + AMN 333 x 2 + Tee) Packing 1 pc.	
AMN 890 ½” hose Used for drain from bleed-off valve. Packing 1 meter	
AMN 891 ¾” hose Used for water connection to the pump. Packing 1 meter	
AMN 892 Hose clamp ½” - 12->22 mm, Stainless steel Packing 1 pc.	
AMN 893 Hose clamp ¾” - 20->32 mm, Stainless steel Packing 1 pc.	





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Aqua Misting Pumps Product catalog 2021



Item nr.	AMP 21x-2 2,2 kW, 9L	AMP 22x-2 2,2 kW, 20L	AMP 42x-2 4 kW, 20L	AMP 43x-2 4 kW, 30L
Max. pressure [bar]	70	70	70	70
Water flow [l/h] (l/min)	1:1 - 540 (9)	1:1,5 - 800 (13,3)	1:1 - 1200 (20)	1:1,2 - 1500 (25)
Different speed	1:1 - 1:1,5 - 1:2 - 1:3	1,5 - 1:2 - 1:3	1:1 - 1:1,2	1:1,2 - 1:1,5 - 1:2 - 1:3
Different capacity [l/min]	9 - 6 - 4,5 - 3	13,3 - 10 - 6,7	20 - 16,7	25 - 20 - 15 - 10
Voltage [Vac]	3 x 400	3 x 400	3 x 400	3 x 400
Current [Amp]	4,5	4,5	7,95	7,95
Oil type	SAE 15/40	SAE 15/40	SAE 15/40	SAE 15/40
Standard filter type	10" – 5 My	10" – 5 My	20" – 5 My	20" – 5 My
Dimension wall -T [cm]	W70xH90xD42	W70xH90xD42	W70xH120xD42	W70xH120xD46
Dimension wall -W [cm]	W65xH90xD42	W65xH90xD42	W60xH120xD42	W60xH120xD46
Weight (all incl. approx.)	51 kg	55 kg	65 kg	72 kg
Dimension shipment	80x60xH55 [cm]	80x60xH55 [cm]	80x60xH55 [cm]	80x60xH55 [cm]
Noise level (approx.)	70-75 dB(A)	70-75 dB(A)	75-80 dB(A)	75-80 dB(A)

The AMP pump series is a modular construction solution where the same basic elements are used in "infinitely" many different combinations and with maximum focus on service and customer friendliness.

The basic program is with 1 piece 20 liters pump (6,6 to 20 liters / h) and IE3 motors 2,2 or 4 kW. All units have V-belt drive, where we provide a 10-year warranty.

Info:

AMP xxx-2	Pump type (<i>see page 9 for better understanding</i>)
AMP 15 & AMP-16	Mounting sets
AMP 2x	High pressure control
AMP 3x - 10" and 20"	Low pressure filter
AMP 4x	Cabinet/controller
AMP 5x	Connection type for different situations.

Total number of combinations with just a few parts equals several thousand combinations.

Guide for easy ordering:

Order the pump AMP xxx-2

Order the cabinet AMP 4x

Order the connection type AMP 5x

Ask for the solution and combination **you** need.

We recommend the use of 20 liter pumps which covers most areas in just 4 different capacities.

AMP systems are available in other sizes (pumps, motors etc.), but these are not in stock and therefore time of delivery will be longer.

Keep your stock value low with easy AMP combinations.

If you order a pump for a single section and want to change to multiple sections, just demount the low pressure solenoid valve - mount AMP 22 or AMP 23 and you have expanded the range of "normal" combinations with a minimal investment.

Disclaimer:

Photographic or typographic errors are subject to correction when ordering. We reserve the right to change prices without notice.

For more information, please contact: contact@thegrowersworld.com



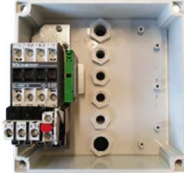
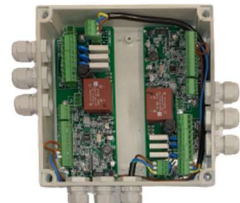
Order no.	Description	
AMP 215-2	2,2kW 9L 1:3 Basic pump (3 liter/min)	
AMP 223-2	2,2kW 20L 1:1,5 Basic pump (13,3 liter/min)	
AMP 224-2	2,2kW 20L 1:2 Basic pump (10 liter/min)	
AMP 225-2	2,2kW 20L 1:3 Basic pump (6,7 liter/min)	
AMP 421-2	4kW 20L 1:1 Basic pump (20 liter/min)	
AMP 432-2	4kW 30L 1:1,2 Basic pump (25 liter/min)	

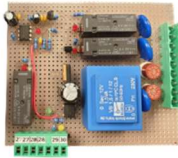
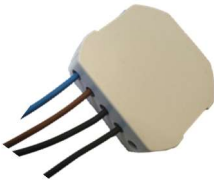
Order no.	Description	
Shipment	Shipment in a strong ½-pallet for safe worldwide transportation. 80 x 60 x 55 cm. (LxWxH) Can be stacked into 4 layers - total 220 cm height	
Enclosed parts	Parts included with a pump Filter house + 2 pcs. filter inserts + filter key Wall bracket, 2 meters of ½" hose for bleed-off, accumulator + other necessities like mounting and user guides in hardcopy.	
AMP 15	Mounting set Parts for water connecting (3/4") Parts for wall mounting Ball valve and 10 bar pressure gauge.	
AMP 16	Polymer pipe for HP connection AMN 302 Pipe 12 mm Polymer – 2 meters AMN 330 Screw fitting equal 12 mm A4 AMN 306x Press inside bushing – Brass (2 pcs)	



Order no.	Description	
AMP 20	High pressure regulator - basic Pressure regulation 60 bar +/- 10 bar – performance from 0 to 42 liters/min. – SS union for pump mounting. Incl. SS elbow, AMN 331. ½” connection for by-pass water.	
AMP 21	High pressure regulator – single section AMP 20 + Bleed-off solenoid valve (anti-drip) – with 2 meter ½” drain-hose and hose clamps.	
AMP 22	High pressure regulator – multiple sections AMP 20 + non return valve for stationary pressure in feed tube. (Quick build-up of pressure at start up.) Handles down to 20% of maximum capacity.	
AMP 23	High pressure regulator - temperature protection AMP 22 + Expanded for temperature protection of pump. Handles performance down to 0 liter/min. With 2 meter ½” drain-hose and hose clamps.	

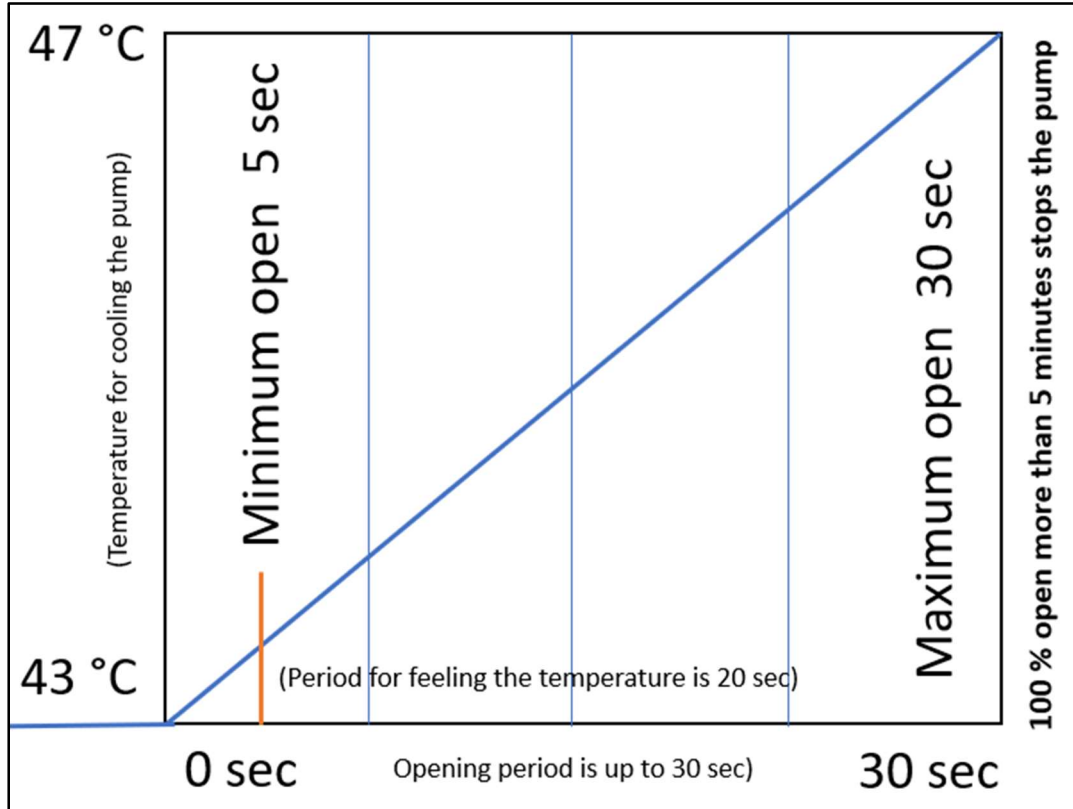
Order No.	Description	
AMP 30-10 AMP 30-20	Filter set 5 my with water tank With a tank. A simple system without low-pressure solenoid valve. Tank ensures even flow to pump and then anti-drip at stop.	
AMP 31-10 AMP 31-20	Filter set 5 my simple With solenoid valve and hose for by-pass water and ¾” hose connection.	
AMP 32-10 AMP 32-20	Filter set 5 my normal – single section AMP 31 + low pressure accumulator (Avoids negative pressure at start-up) Union for connection to pump. (Simple service and more reliable)	
AMP 33-10 AMP 33-20	Filter set 5 my normal – multiple sections AMP 32 Excl. solenoid valve.	
AMP 34-10 AMP 34-20	Filter set 5 my separate For extra filtration. Can be extended with up to 3 different filter inserts. (e.g. 1 my, 5 my & 20 my) Incl. wall bracket, clamps, and hose connections. Possible purchase: AMN 891 - ¾” hose Ask for additional info and prices.	
AMP 10-1my AMP 10-5my AMP 10-20my AMP 20-1my AMP 20-5my AMP 20-20my	Filter inserts Normal delivery and filtration with 1 filter 5 my. (0.2 mm nozzle has a hole of 200 my) After filtration - nozzles preferably block when lime dries in. Can be supplemented with multiple filters but can give increased pressure drop in front of the pump.	

Order No	Description	
AMP 40 	Cabinet with contactor etc. Without security systems. Can be connected to low pressure solenoid valve. 230 Vac NO signal for start/stop. Incl. 1.5 meter wire and CEE Plug. <i>Note:</i> <i>Can be supplied with timer and pressure switch.</i>	
AMP 42 	Cabinet with PCB Automatic With intelligent timer for pressure switch, special programs for single and multiple sections incl. temperature control for capacity down to zero liter/min. (see diagram page 10) 24 Vdc NO signal for start/stop. Incl. blue front when PCB inside Incl. 1,5 meter wire and CEE Plug.	
AMP 43 	Cabinet SAFE Misting® - Pump AMP 42 + Stand-Alone solution complete with display. Ready for ON/OFF Without temperature/humidity sensor. Ready for AMP 46 sensor – then complete humidity and temperature control.	
AMP 44 	SAFE Misting® - single section Single section decentralized – input 230 Vac Complete with display Ready for ON/OFF Incl. bleed-off control Without temperature/humidity sensor. Ready for AMP 46 sensor – then complete humidity and temperature control.	
AMP 45 	SAFE Misting®-Multiple sections Multiple sections decentralized – input 230 Vac Complete with display Ready for ON/OFF Incl. bleed-off control Ready for tandem control. Reduced start/stop and able to handle double amount of nozzle from the same pump. Without temperature/humidity sensor. Ready for AMP 46 sensor – then complete humidity and temperature control.	

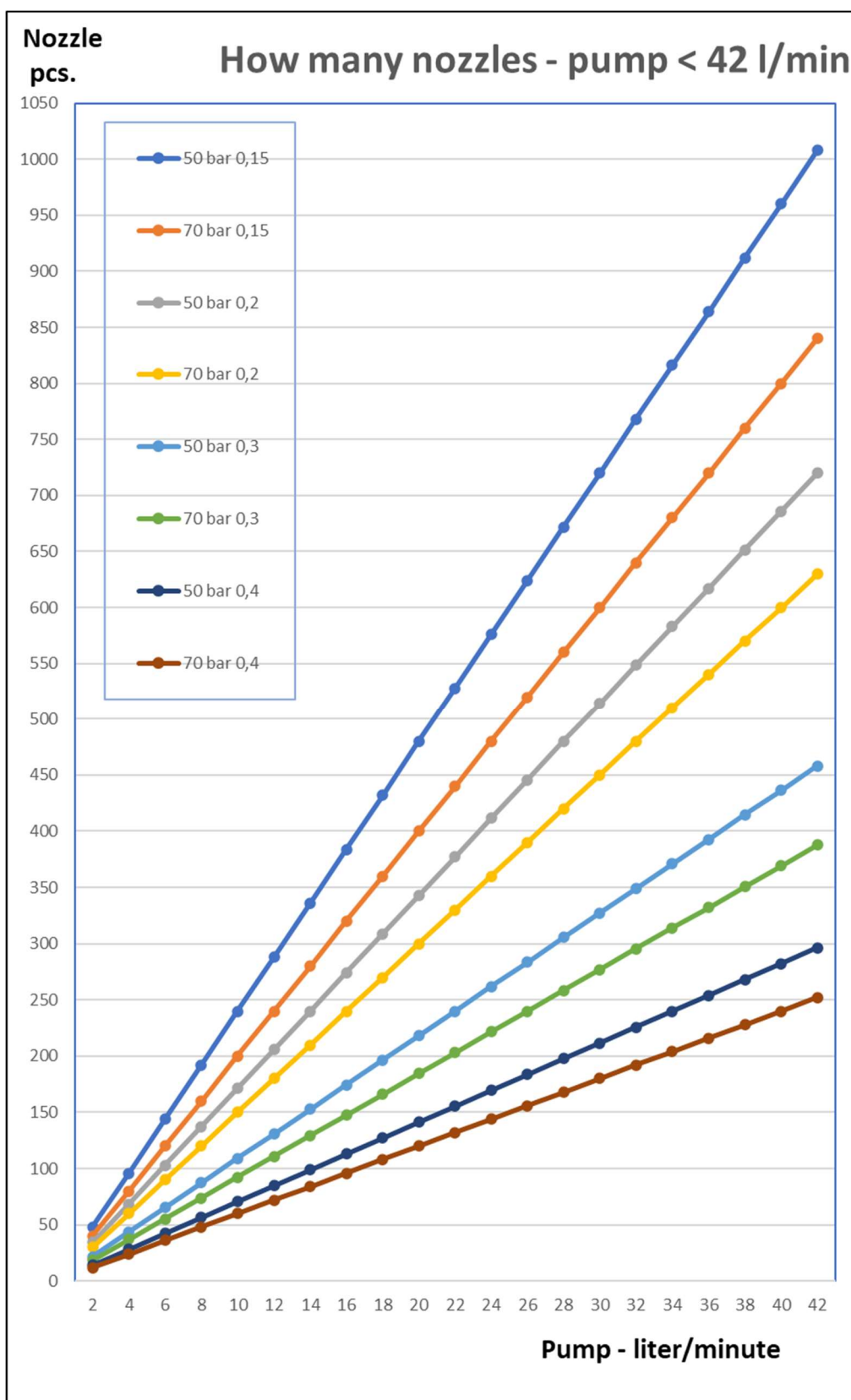
Order No.	Description	
AMP 46	Humidity/temperature sensor Complete with 3 meters wire. Used for SAFE Misting controllers	
AMP 47	Auto bleed-off valve controller For one section – input 230 Vac. Input signal: Close signal from climate computer. Operate separate section with solenoid valve and bleed-off + start signal to the pump. The way of making anti-drip in multiple sections. Solenoid valve bleed-off AMN 880 or AMN 881. <i>Box size: 100x100x50 mm</i>	
AMP 48	Remote wi-fi control for service Connect your cell phone via 2.4 Ghz wi-fi => Programming and communication. From big distance you can make start/stop of the pump. Used for inspection/service long distance from the pump (water leak, frost protection etc.)	

Order code	Description	
AMP 50	Tank solution AMP 15 Mounting set AMP 20 H/P regulator AMP 30 Filter set with tank Additional info: Simple and cheap solution. With tank you have simple anti-drip function – water back to tank	
AMP 51	Complete for single section AMP 15 Mounting set AMP 21 H/P regulator 1 section AMP 32 Filter set with accumulator	
AMP 52	Complete, multiple sections, temp. AMP 15 Mounting set AMP 23 H/P temperature security AMP 33 Filter set with accumulator	
AMP 53	Complete for multiple sections AMP 15 Mounting set AMP 22 H/P regulator for multiple sections AMP 33 Filter set with accumulator	

Temperature security system for pumps – AMP 23



Nozzles vs. liters per minute





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Motor size and capacity vs. performance list

										Gearing									
Motor size kW	Motor size	Motor Axle diameter	OK - 50 Hz (and 60 Hz) Security factor = +20% 1,6 kW/10 liter	Pump type - liter/min				Max. capacity				Frame = not possible for 60 Hz							
				1 to 1	1 to 1,2	1 to 1,5	1 to 2	1 to 3	1 to 1	1 to 1,2	1 to 1,5	1 to 2	1 to 3	1 to 1	1 to 1,2	1 to 1,5	1 to 2	1 to 3	
0,75 kW	80	19	4,70 liter	9,0	7,5	6,0	4,5	3,0									114-2	115-2	
2,2 kW	90	24	13,75 liter	9,0	7,5	6,0	4,5	3,0											
2,2 kW	90	24	13,75 liter	20,0	16,7	13,3	10,0	6,7									223-2	224-2	
3 kW	100		18,75 liter	20,0	16,7	13,3	10,0	6,7											
4 kW	100	28	25,00 liter	20,0	16,7	13,3	10,0	6,7											
4 kW	100	28	25,00 liter	30,0	25,0	20,0	15,0	10,0									432-2	433-2	
4 kW	100	28	25,00 liter	42,0	35,0	28,0	21,0	14,0									444-2	445-2	
5,5 kW	112		34,50 liter	30,0	25,0	20,0	15,0	10,0											
7,5 kW	132	38	46,90 liter	42,0	35,0	28,0	21,0	14,0											
										Art. number translation									
										1	2	3							
										Motor size	Pump size	Gearing	Version						
										1 = 0,75		1 = 1:1	-1	<2021					
										2 = 2,2	1 = 9	2 = 1:1,2	-2	≥2021					
										3 = 3	2 = 20	3 = 1:1,5							
										4 = 4	3 = 30	4 = 1:2							
										5 = 5,5	4 = 42	5 = 1:3							
										7 = 7,5									
										Belt size = XPZ 1250									
										Up to 2,2 kW motor - 1 belt									
										3 and 4 kW motor - 2 belts									
										5,5 kW motor - 3 belts									
										7,5 kW motor - 3 belts size XPZ 1320 (Special size)									
										Motor size 0,75 and 2,2 kW = 10" filter									
										Motor size 3 and 4 kW = 20" filter									
										Motor size 5,5 and 7,5 kW = 20" big size filter									



Detailed AMP pump controller PCB board explanation

AMP Pump controller PCB board 01.01.2021		Stop
Start		
General functions for the controller		
Condition 1 Selector switch set to Auto	Terminal 29,30: External input for start-up.	
Condition 2 Main contactor start	Terminal 13,14,15: activates relay for starting main contactor to the motor - 1 sec. after start signal 29,30.	
Condition 3 Ensuring water pressure Note 1: More small cyclus without pressure - and total 20 sec. Stops the pump too. Note 2: The first 2 sec. is outside the calculation because of pressure "chocks".	Terminal 25,26: Input signal from external pressure sensor must be activated before 20 s. If no input signal recieved, the selector switch on box front must be set to OFF to create a reset.	
Single section - pump		
Condition 4 Valve 10 bar)	Terminal 7,8,9: activate low pressure solenoid valve - when terminal 29,30 is activated	Valve stops 1 s after pump stops (main contactor, terminal 15)
Condition 5 Bleed-off pressure from pipes	Terminal 10,11,12: solenoid valve for high pressure bleed-off opens for 10 s first time.	After first 10 s, the solenoid valve opens for 2 s every 2 minutes, 8 times total
Multiple section - pump		
Short in terminal 23,24 - Then the pump - terminal 13,14,15 - start together with startsignal 29,30. Temperature control activated.		
Condition 6	Terminal 23,24: A timer keeps the main contactor start-signal active for 5 s Timer for start/stop signal => no short pulse for the pump running Note 3: When manual switch from stop to auto - the pump start immediately Note 4: From the factory the short - terminal 21,22 is in position. The short can be demounted. (just for cyclus below of 5 sec. ON and OFF).	A timer keeps the main contactor STOP-signal active for 5 s
Note 5: From factory the short - terminal 29,30 is in position. Demount this for signal from decentral climate computer in terminal 29,30		



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SAFE Misting® display overview

Program B and C needs the humidity/temperature sensor AMP 46.

LEVEL 1 - User	A ON/OFF Reg. 25°C 65%	B Temp. reg. 25°C 65%	C Humidity reg. 25°C 65%	D Timer	X Service
	A01 ON Time 10 sec	B01 Min. temp. 20°C	C01 Min. Humidity 60%	D01 Timer 1 ON/OFF OFF, ON	X01 Level select 1, 2
	A02 OFF Time 10 sec	B02 Max. Temp. 30 °C	C02 Max. Humidity 75%	D02 Timer 1 ON Time 08.00	X02 Show Date/Time Date Time
	A03 Wetting OFF, ON	B03 Fixed On Time 10 sec	C03 Fixed On Time 10 sec	D03 Timer 1 OFF Time 20.00	X03 SW version Just info
LEVEL 2	A11 Dust - manuel 60 sec	B11 OFF various 120 sec max	C11 OFF various 120 sec max	D11 Timer 2 ON/OFF OFF, ON	X11 ON Time
		B12 Off Time Min 0	C12 Off Time Min 0	D12 Timer 2 ON Time 08.00	X12 Reset To Default No Yes
		B13 Max. Humidity 75%	C13 Min. temp 18°C	D13 Timer 2 OFF Time 20.00	X13 Temp unit °C F
		B14 Temp. Fault Adj 0 +/-°C	C14 %rh fault Adj. 0 +/- %	D14 Timer 3 ON/OFF OFF, ON	
				D15 Timer 3 ON Time 08.00	
				D16 Timer 3 OFF Time 20.00	
LEVEL 3	A21 Dust - Auto OFF, ON		C21 Various %rh OFF, ON		X21 Tandem ON/OFF OFF, ON
	A22 ON time 15 sec		C22 Var. Min. temp. 20°C		X22 Max. ON time 120 sec
	A23 OFF time 60 min		C23 Var. Max. Temp. 25°C		
	A24 Drain - auto OFF, ON		C24 Var. Change %rh 10%		
	A25 ON time 30 sec				
	A26 OFF time 6 hour				



Ask for more detailed information.