



**Allube** Ltd  
Lubrication Engineering



UK IMPORTERS

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# ***MQL***

MINIMUM QUANTITY AIRLINE  
LUBRICATION SYSTEM.

***DROPS INSTEAD OF LITRES!***



Registered to ISO 9001: 2008

**DESIGNERS & INSTALLERS OF INDUSTRIAL & COMMERCIAL VEHICLE SYSTEMS & GARAGE EQUIPMENT**



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*THE ALLUBE MICRO LUBRICATION SYSTEMS ARE DESIGNED FOR A WIDE RANGE OF LUBRICANT APPLICATIONS, FROM DELIVERING PRECISE VOLUMES OF CUTTING FLUIDS FOR MACHINING PROCESSES, DIE PRESS LUBRICATION, WEAR POINT LUBRICATION AND AIRLINE LUBRICATION.*

*THESE SYSTEMS PROVIDE A COST-EFFECTIVE SOLUTION FOR AUTOMATIC APPLICATION OF FLUIDS IN MINIMUM QUANTITIES, FROM WATER SOLUBLE COOLANTS TO FLUID GREASES.*

*DUE TO THE WAY THE SYSTEMS DELIVER A PRECISE MINIMAL QUANTITY OF HEAVIER THAN AIR LUBRICATING OIL DROPLETS TO THE CUTTING EDGE/LUBRICATION POINT/INTO AIRLINES VIA INDIVIDUALLY ADJUSTABLE PNEUMATIC PUMPS.*

*IN MACHINING PROCESSES, THERE IS NO MISTING EFFECT INTO THE ATMOSPHERE, NO GENERATION OF FRICTION / HEAT BETWEEN THE WORK SURFACE AND THE TOOL CUTTING EDGE AND THE LUBRICATING OIL IS CONSUMED BY THE MACHINING PROCESS, PRODUCING VIRTUALLY DRY MACHINING WASTE TURNINGS/CHIPPINGS.*

*IN LUBRICATING APPLICATIONS, THE SYSTEM DELIVERS MINIMUM VOLUMES OF LUBRICANT TO WEARPOINTS IN ACCURATE REPEATABLE QUANTITIES.*

*IN AIRLINE LUBRICATION, THE SYSTEM REPLACES CONVENTIONAL OIL AND MICRO FOG SYSTEMS, WHICH RELY ON THE 'VENTURI' ACTION TO DELIVER DROPLETS OF OIL INTO THE AIRLINE.*

*OUR SYSTEM DELIVERS 'PUMPED' VOLUME OF LUBRICANT INTO THE AIRSTREAM, IN EXACT METERED VOLUMES. THE OIL RESERVOIR IS NOT PRESSURISED, SO THE AIRLINE DOES NOT HAVE TO BE DE-PRESSURISED TO RE-FILL WITH LUBRICANT.*



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***THE UNIQUE ADVANTAGES OF MQL SYSTEMS.***

MICRO-PUMPS REGULATE THE LUBRICANT SUPPLIED IN EXACT  
QUANTITIES ADJUSTABLE FROM 0 MM<sup>3</sup> TO 41 MM<sup>3</sup> – NO  
GUESSWORK.

100% PNEUMATICALLY CONTROLLED POSITIVE DISPLACEMENT  
PUMPS.

FOR MACHINING LUBRICANT IS CARRIED BY AIR, WITH PINPOINT ACCURACY.  
HAZARDOUS ATOMIZING AND “MIST” ARE ELIMINATED.  
OR IT IS DELIVERED VIA TUBING DIRECTLY TO THE BEARING TO BE LUBRICATED.

FOR WEARPOINT AND AIRLINE LUBRICATION OIL IS DELIVERED, NEAT TO THE POINT OF USE.

ALL PUMPS AND NOZZLE OPERATE INDEPENDENTLY FOR  
LUBRICANT.

ADDITIONAL PUMPS CAN BE ADDED IN THE FIELD. JUST ORDER A  
COMPLETE PUMP ASSEMBLY.

MINIMAL OR NO EQUIPMENT MODIFICATION IS REQUIRED FOR  
SYSTEM INSTALLATION.

A PNEUMATIC TIMING DEVICE (FREQUENCY GENERATOR) WITH  
A CONTROL RANGE.

EASY LUBRICANT AND AIR FLOW ADJUSTMENT.

DURABLE RESERVOIR.

STANDARD HOSE LENGTH IS 5 M. ADDITIONAL HOSE LENGTH  
AVAILABLE UPON REQUEST.

MULTIPLE NOZZLE TYPES AVAILABLE FOR SPRAY APPLICATIONS FOR MACHING, CHAIN  
LUBRICATION PRESS DIE LUBRICATION.



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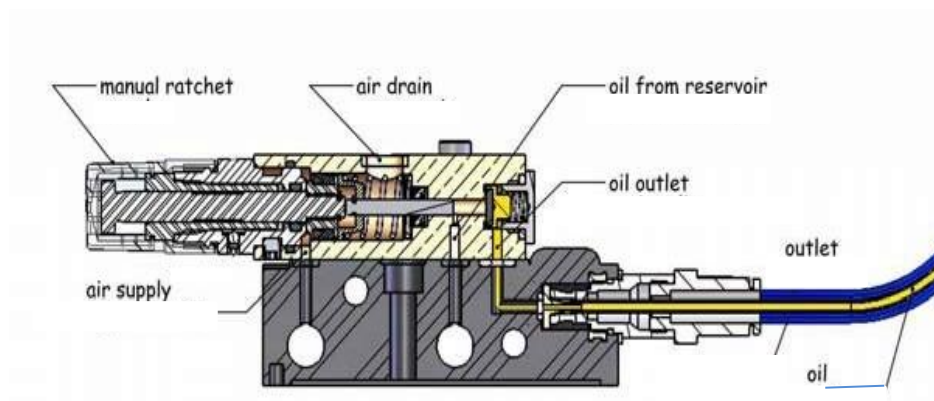


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### **WORKING PRINCIPLE, DROPS INSTEAD OF LITRES.**

*AN ADJUSTABLE, POSITIVE DISPLACEMENT PNEUMATIC METERING PUMP DELIVERS A MINIMUM QUANTITY OF LUBRICANT ALONG A CAPILLARY TUBE, FITTED INSIDE A PROTECTIVE TUBE TO THE APPLICATION POINT. AT THIS POINT THE LUBRICANT DROPLETS ARE INTRODUCED INTO THE AIR STREAM IN THE SAME MANNER AS CONVENTIONAL MICRO FOG SYSTEMS, WHERE THE DROPLET IS DISPERSED TO PRODUCE AN OIL MIST INSIDE THE AIRLINE.*



### **OPERATION**

*WHEN THE COMPRESSED AIR AT A PRESSURE OF BETWEEN 5 (75 PSI) AND 10 (150 PSI) BAR IS PASSED TO THE PUMP IT ACTS ON THE TOP FACE OF THE PISTON. THE PISTON THEN OPERATES AND A PRECISE SET AMOUNT OF LUBRICANT IS DELIVERED THROUGH THE OUTLET TO THE DELIVERY PORT AND ALONG THE CAPILLARY TUBE. THE AIR IS THEN EXHAUSTED THE PISTON RE-SEATS UNDER SPRING PRESSURE AND THE METERING CHAMBER REFILLS WITH LUBRICANT. THE PUMP IS NOW RESET FOR ANOTHER DELIVERY CYCLE. THE STROKES PER MINUTE CAN BE ADJUSTED BETWEEN 3 EACH SECOND TO 1 EACH MINUTE VIA THE FREQUENCY GENERATOR BUT THESE CAN VARY SLIGHTLY DUE TO THE LUBRICANT USED AND THE AIR PRESSURE*

*THE LUBRICANT DISCHARGE CAN ALSO BE ADJUSTED BY MEANS OF THE PUMPS MANUAL RATCHET ADJUSTER TO GIVE A DISCHARGE RATE OF BETWEEN 0 MM<sup>3</sup> AND 41 MM<sup>3</sup> PER STROKE.*



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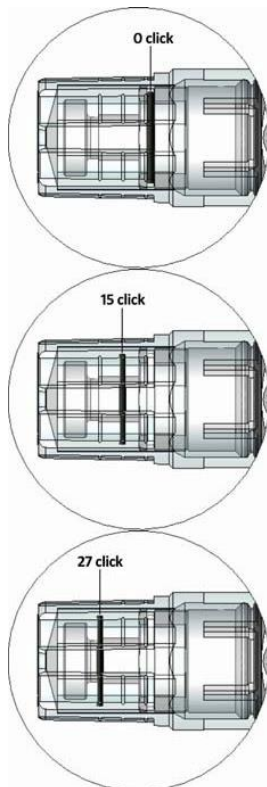
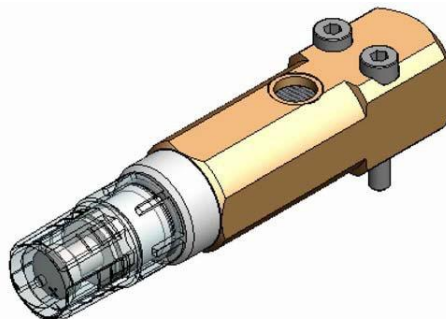
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### HOW TO ADJUST THE DISCHARGE PER STROKE

TURNING THE ADJUSTER CLOCKWISE WILL DECREASE THE PUMP DISCHARGE AND TURNING THE ADJUSTER ANTI-CLOCKWISE WILL INCREASE THE PUMP DISCHARGE.



INCREMENTS	DISCHARGE / CYCLE , MM <sup>3</sup>
CLICK 0	39,00
CLICK 1	37,23
CLICK 2	35,47
CLICK 3	33,70
CLICK 4	31,93
CLICK 5	30,16
CLICK 6	28,40
CLICK 7	26,63
CLICK 8	24,86
CLICK 9	23,10
CLICK 10	21,33
CLICK 11	19,56
CLICK 12	17,79
CLICK 13	16,03
CLICK 14	14,26
CLICK 15	12,49
CLICK 16	10,73
CLICK 17	8,96
CLICK 18	7,19
CLICK 19	5,42
CLICK 20	3,66
CLICK 21	1,89
CLICK 22	0,12
CLICK 23	0,00
CLICK 24	0,00
CLICK 25	0,00
CLICK 26	0,00



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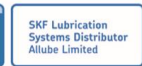


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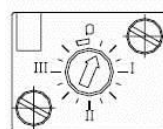


**HOW TO ADJUST THE FREQUENCY GENERATOR WITH AIR AT 6 BAR (90 PSI)**

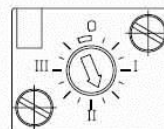
WITH THE AIR PRESSURE 5 BAR (75 PSI) THE VALUES HAVE TO BE INCREASED OF ABOUT 7%

WITH THE AIR PRESSURE 7 BAR (105 PSI) THE VALUES HAVE TO BE DECREASED OF ABOUT 4%

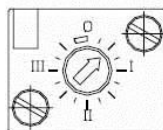
WITH THE AIR PRESSURE 8 BAR (120 PSI) THE VALUES HAVE TO BE DECREASED OF ABOUT 8%



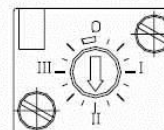
66 STROKES PER  
MINUTE



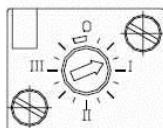
5 STROKES PER  
MINUTE



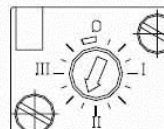
37 STROKES PER  
MINUTE



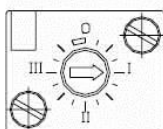
4 STROKES PER  
MINUTE



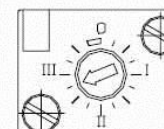
21 STROKES PER  
MINUTE



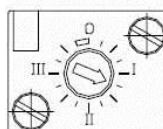
3 STROKES PER  
MINUTE



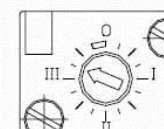
13 STROKES PER  
MINUTE



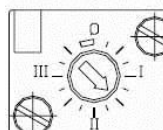
2 STROKES PER  
MINUTE



10 STROKES PER  
MINUTE



1 STROKE PER  
MINUTE



6 STROKES PER  
MINUTE



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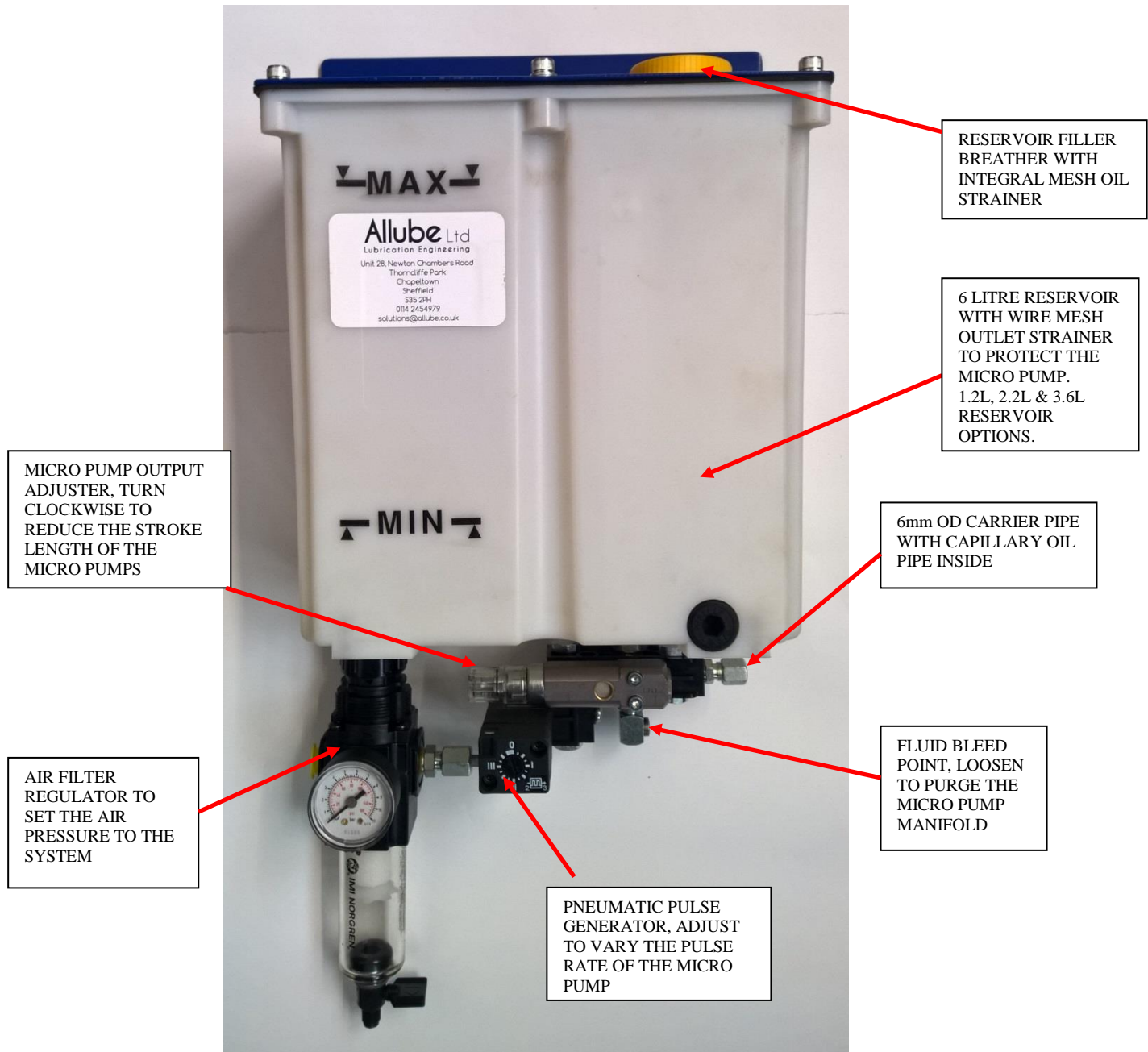


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### COMPONENT DESCRIPTION.



LOW LEVEL SWITCH OPTIONS ARE AVAILABLE.



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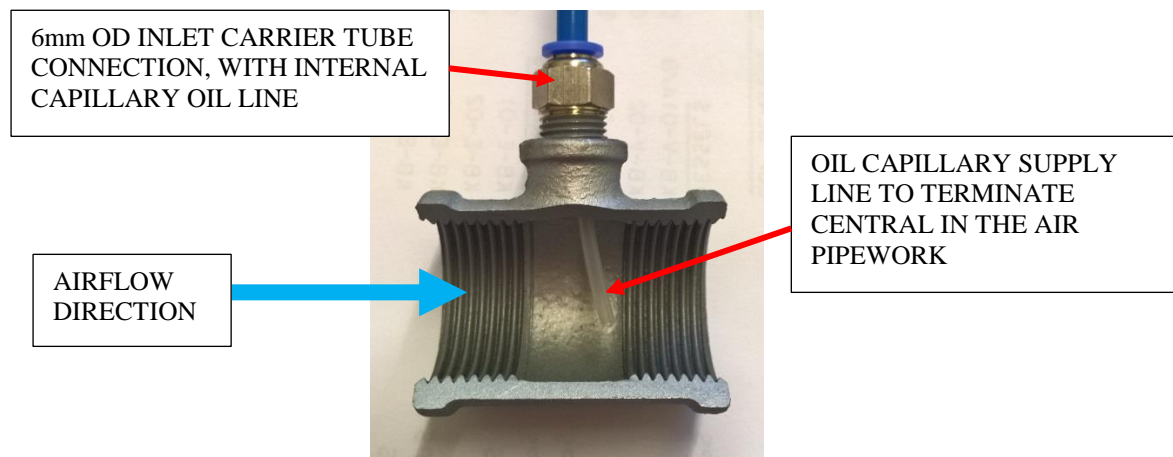
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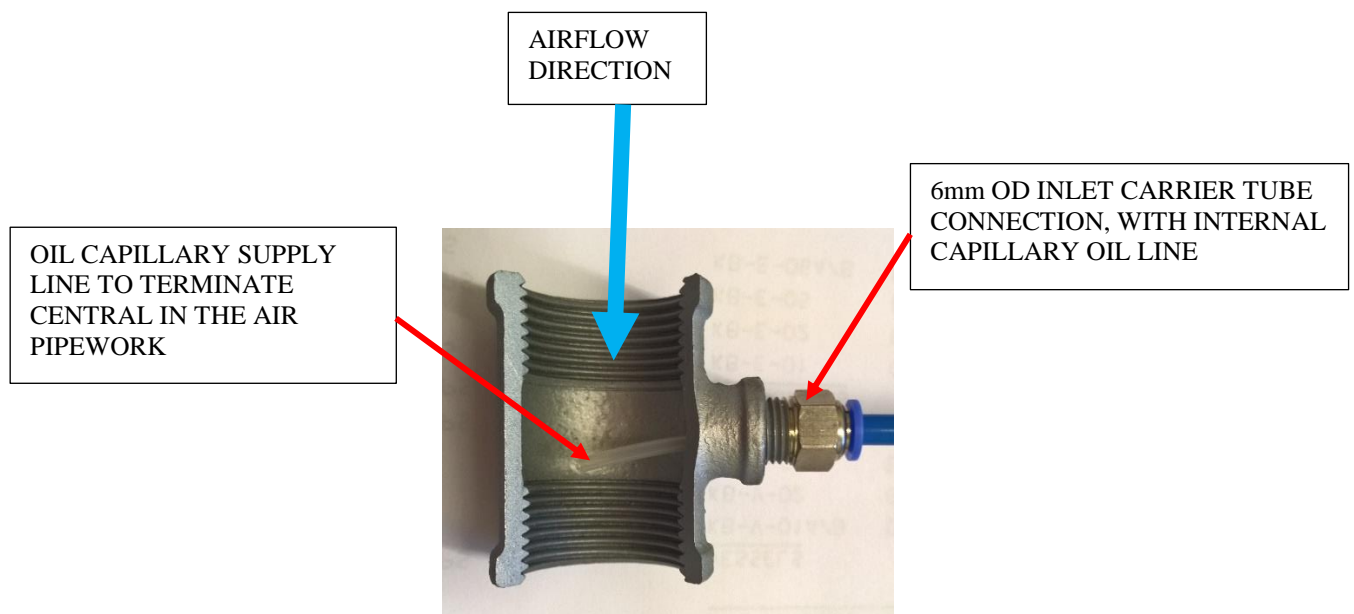
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## DISPENSING CONNECTIONS, FOR STEEL PIPEWORK.



**HORIZONTAL AIR MAINS, INPUT FROM THE TOP! NEVER FROM THE BOTTOM!!**



**VERTICAL AIR MAINS, INLET FROM THE SIDE!**

Connections for other pipework would be done with any type of 6mm OD connector fitting.



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