

## CHARACTERISTICS

- PRECISE REGULATION OF MICRO-QUANTITY AIR OIL MIXTURE ON EACH MODULE
- INDEPENDENT CONTROL OF MODULES POSSIBLE
- PRESSURE COMPENSATOR CAN MAINTAIN OIL DELIVERY EVEN IF THE INPUT AND OUTPUT PRESSURES ARE NOT CONSTANT
- MONO-TUBE OR COAX POSSIBLE WITH STANDARD PRODUCT
- SCAVENGE DEVICE INTEGRATED TO SIPHON OIL IN COAX SYSTEMS
- RESERVOIR CAPACITY: 1 LT 3LT
- DELIVERY: VARIABLE, 0÷2 cc/ MIN
- AIR AND OIL DELIVERY REGULATION FOR EACH SINGLE ELEMENT

## APPLICATIONS

- MACHINE TOOLS
- MACHINE FOR SHEET METAL CUT AND FOLD
- STEEL MILLS

## A MODULAR COMPACT AIR/OIL FOR WITH PNEUMATIC CONTROL

### EFFICIENT AND COMPLETE

The air/oil system is designed for minimum quantity lubrication application in near dry machining lubrication for machine tools or spray systems in general such as sheet metal, steel mills, it can be used on all the systems that need a calibrated lubrication and a functions control.

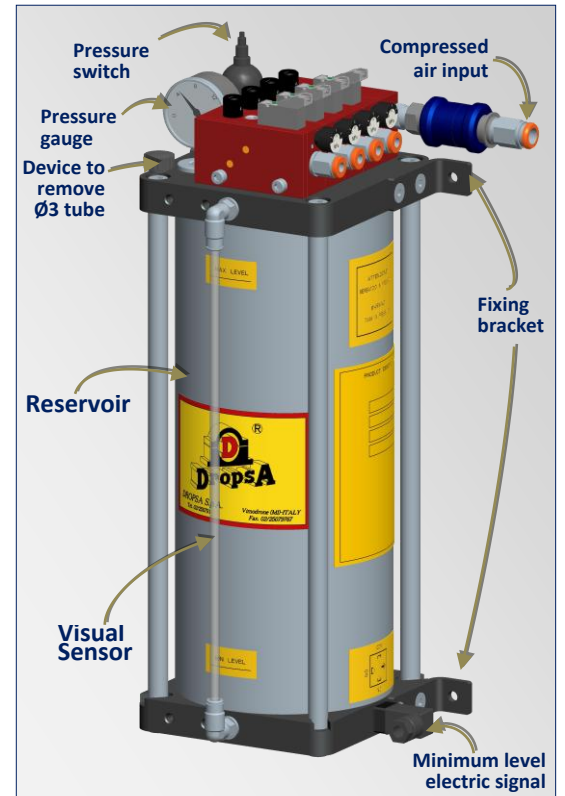
It is possible to insert up to 8 elements connected among themselves that can be individually controlled via an integrated solenoid.

### EASY TO ENGINEER, IMPLEMENT AND USE

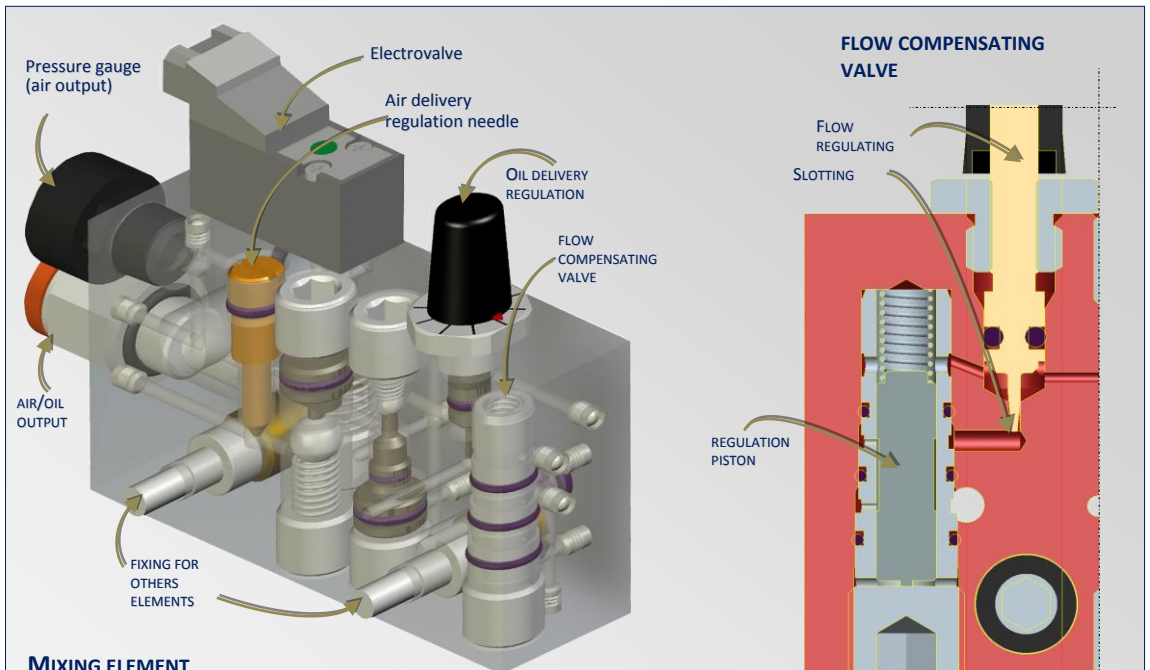
For each single element it is possible to control individually oil and air delivery or use all the modules in tandem making the system easy to configure for each user application and control system.

### CLEAN

The system includes a scavenge device that rapidly recoils oil from the delivery line to prevent lubricant drip when powered down.



## OPERATING PRINCIPLE



### MIXING ELEMENT

The lubricant delivery is always constant even if the output and input pressure changes, this is possible thanks to the self-compensation valve that maintains constant pressure between the oil input and output.  $\Delta p_{(oil)} = \text{constant} (\sim 2 \text{ bar}) \Rightarrow Q_{(oil)} = \text{constant}$

**OVERALL DIMENSIONS ( NOT TO SCALE DRAWING)**

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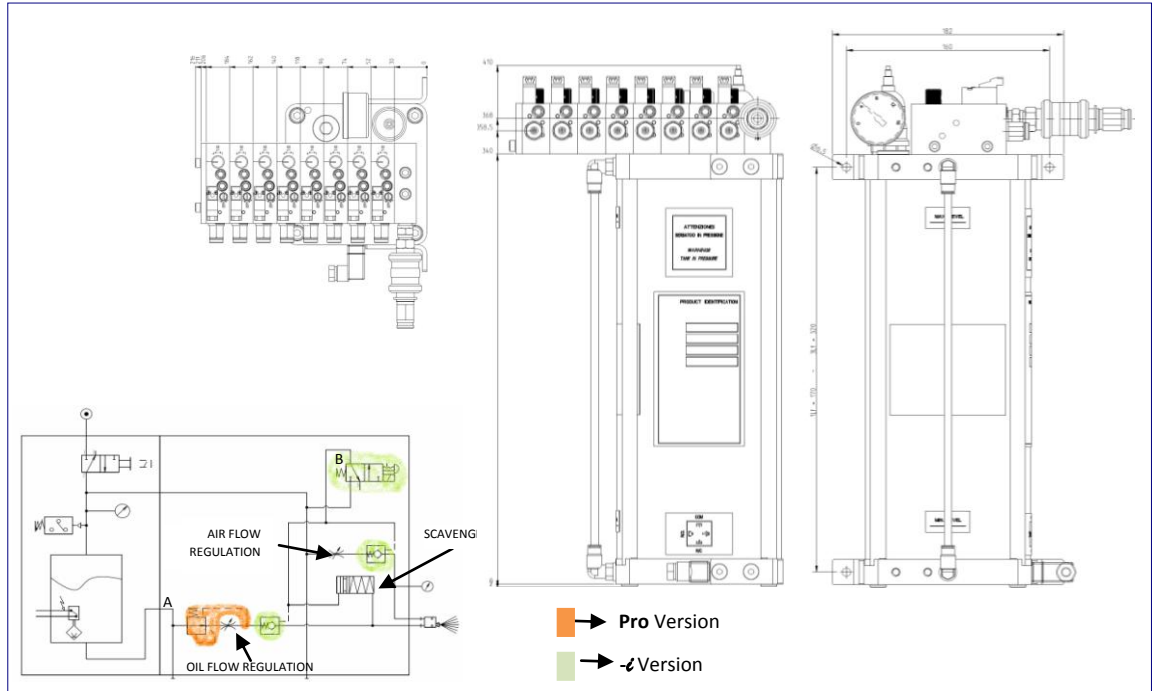
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TECHNICAL CHARACTERISTICS	
Minimum Level	Visual + contact N.C. 0,25 A – 120 V
Pressure switch output signal	Clear contact max tension 250V, max. power 100 W
Pressure gauge	16 bar (1,6 MPa)
Pumping system	Reservoir in pressure
Input Air pressure	4 ÷ 7 bar
Oil working pressure	2,5:1 in relation with air pressure
Oil Delivery for each element	0 ÷ 2cc/min (oil 10cSt - 32 cSt) 0 ÷ 0.5cc/min (oil 32cSt - 100 cSt)
Air output	Push-in tube ø 6 mm
Oil output	Push-in tube ø 3 mm
Working temperature	+ 5 ÷ + 50°C
Lubricants	Mineral oil 10 ÷100 cSt
Max n° modules	8
Reservoir Capacity	1L – 3L

**ORDERING INFORMATION**

AVAILABLE VERSIONS			
VERSIONS	DESCRIPTION	1L Reservoir Capacity	3L Reservoir Capacity
MiQueL PRO	A/O Flow compensating system N( 1-8) miniModules	313550-N	313554-N
MiQueL PRO-ε	A/O flow compensating system N ( 1-8 ) miniModules with independent solenoid control	313551-N	313555-N
MiQueL BASE	A/O System N( 1-8) miniModules, <b>NO</b> compensation valve	313552-N	313556-N
MiQueL BASE-ε	A/O System N( 1-8) miniModules with independent solenoid control, <b>NO</b> compensation valve	313553-N	313557-N

OPTIONAL			
PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
1525430	MiQueL PRO-ε – Modular Element	5717301	Outlet AIR pipe ø6
1525440	MiQueL PRO - Modular Element	3226664	MK 150 Oil 20 lt.
1525450	MiQueL BASE-ε - Modular Element	3226665	MK 100 Oil 25 lt.
1525460	MiQueL BASE - Modular Element	3226666	MK High Performance Oil 29 lt.
3133559	AIR inlet solenoid Kit	3225465	MK Stainless Oil 20 lt
0020694	AIR Pressure gauge for ε module	3133455	FULL cone coaxial nozzle
1525446	Solenoid Connector with 600mm cable for ε module	3133558	65° FLAT cone coaxial nozzle
1525476	Solenoid Connector with M8 connector for ε module	3133564	FULL cone monotube nozzle
1525442	Solenoid for ε module	3133565	65° FLAT cone monotube nozzle
1525431	Electrical minimum level sensor	1525050	Monotube nozzle for 50mm BLADE
0039841	Connector for electrical minimum level	1525051	Monotube nozzle for 70mm BLADE
3291028	Pressure switch 6 bar	1525475	Device to remove ø3 tube
0020557	Reservoir pressure gauge	5717232	Outlet OIL pipe ø3