

CHARACTERISTICS

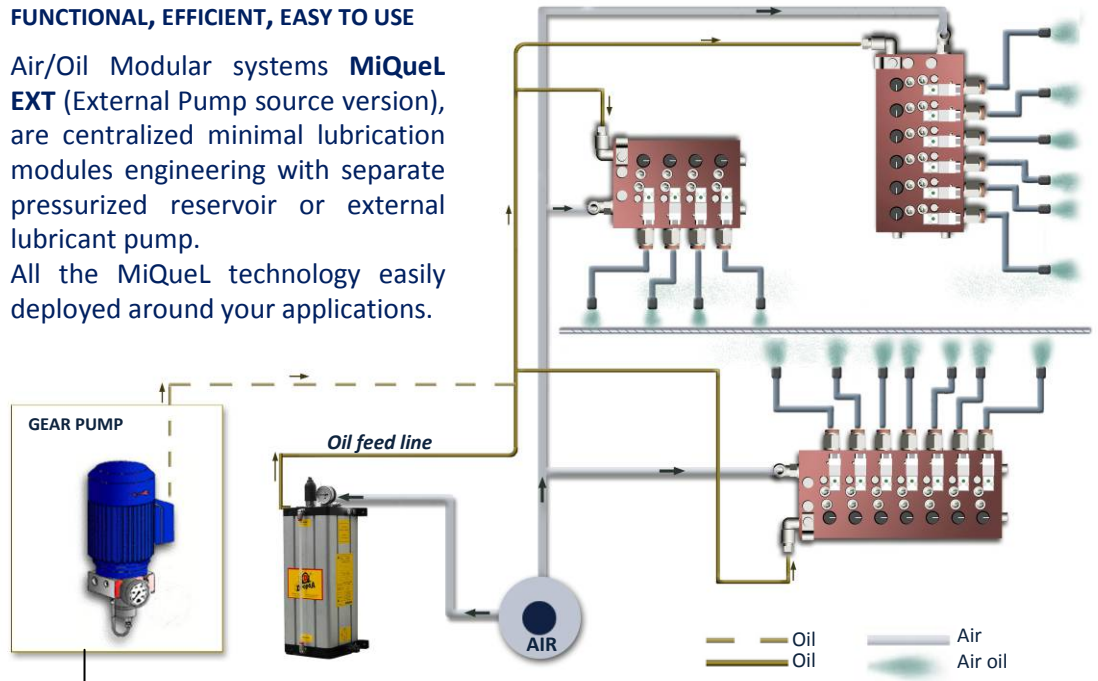
- SEPARATE PRESSURIZED TANK
- SEPARATE AIR OIL SUPPLY
- CONSTANT FLOW RATE INDEPENDENTLY BY THE INLET AND OUTPUT PRESSURE CHANGES
- INDEPENDENT SOLENOID CONTROL
- MONO-TUBE OR COAX POSSIBLE WITH STANDARD PRODUCT
- AIR AND OIL DELIVERY REGULATION FOR EACH SINGLE ELEMENT

EASILY ENGINEER DISTRIBUTED AIR-OIL MQL SYSTEMS WITH MIQUEL-EXT MAINTAINING CONTINUOUS AND PERFECT AIR/OIL LUBRICATION

FUNCTIONAL, EFFICIENT, EASY TO USE

Air/Oil Modular systems **MiQueL EXT** (External Pump source version), are centralized minimal lubrication modules engineering with separate pressurized reservoir or external lubricant pump.

All the MiQueL technology easily deployed around your applications.



This pump can power multiple MiQueL modules, installed in remote areas from a single source.

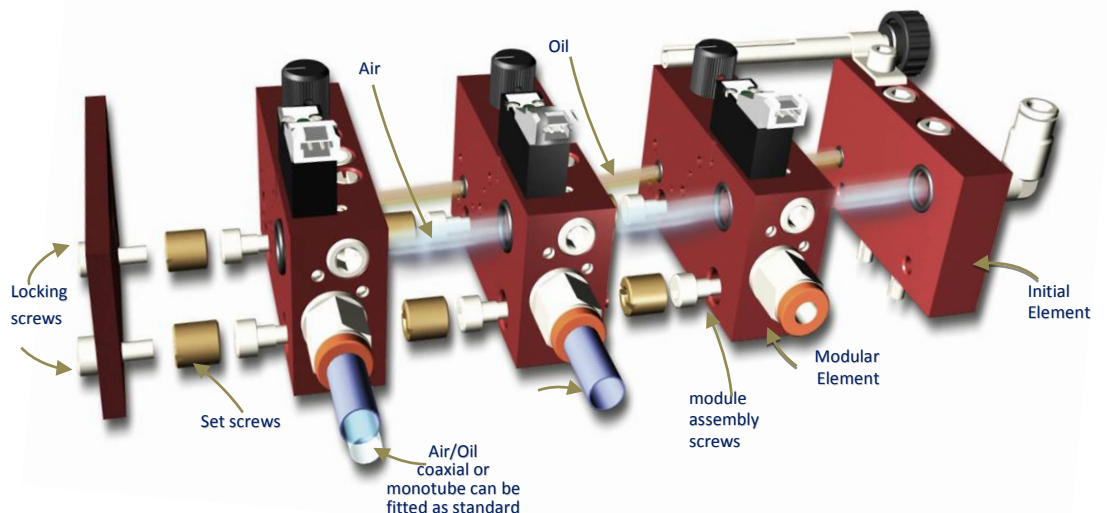
Install MiQueL modules in more remote area of a machine and operate them remotely.

MiQueL EXT, air and oil is fed separately to the modules.

Oil pressure must be higher than the air pressure. The PRO versions will automatically balance oil pressure depending on lubrication point back pressure.

APPLICATIONS

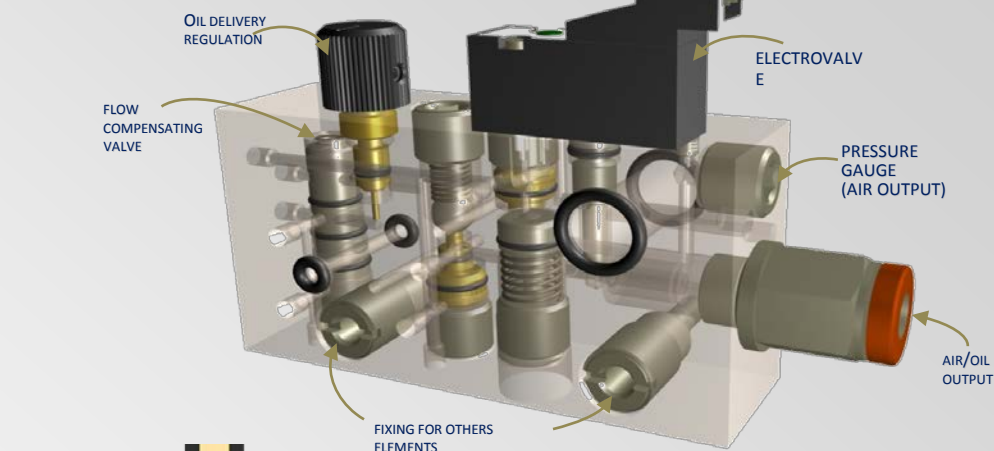
- MACHINE TOOLS
- MACHINE FOR SHEET METAL CUT AND FOLD
- STEEL MILLS



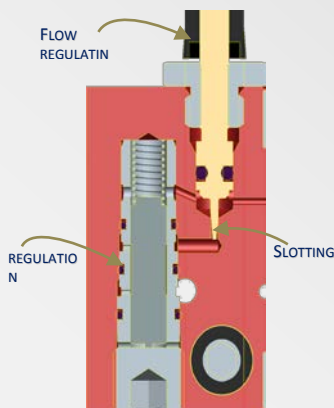
BENEFITS

- EASE TO INSTALL ON THE MACHINE
- REDUCING TOOL WEAR
- BETTER FINISH OF THE WORK PIECE
- FINISHED PIECE WITHOUT LUBRICANT RESIDUE
- NO DRIPPING FROM NOZZLES AFTER SHUTDOWN
- HIGH SPRAY DISTANCES (UNTIL 300 MM)
- INCREASED SAFETY AND ENVIRONMENTAL HYGIENE IN THE WORKPLACE.

OPERATING PRINCIPLE



MIXING ELEMENT



PRO VERSION FLOW COMPENSATING VALVE.

Air back or oil feed line pressures can constantly change due to operating conditions.

Dropsa's compensating Flow Valve technology maintains a constant pressure delta across the oil regulating needle irrespective of both oil inlet pressure and outlet air pressure.

This features means the desired oil flow is maintained at all operating pressures.

The INLET pressure is regulated, via the compensating valve to 1,5 bar (22,05 p.s.i.) above the outlet pressure.

Whatever the inlet pressure used on the system the compensating valve will adapt dynamically.

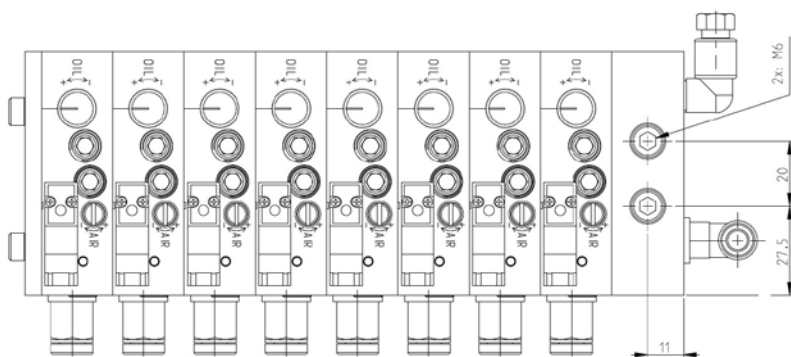
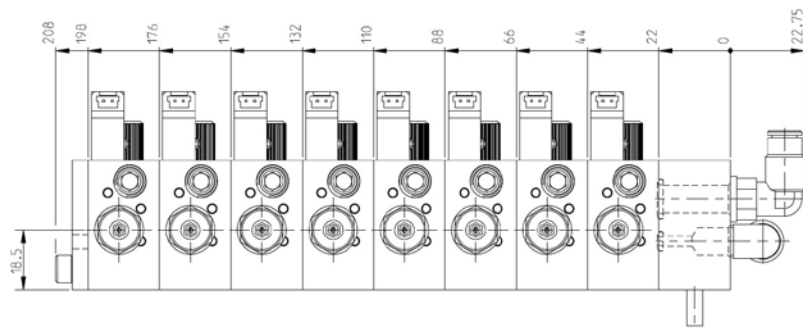
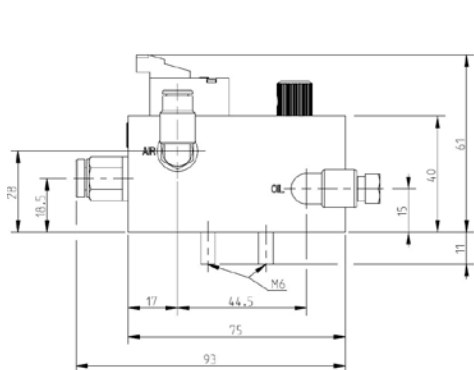
As the backpressure changes on the outlet, the compensating valve dynamically maintains 1.5 bar (22p.s.i.) pressure delta across the regulating spindle maintaining desired flow rate

$$\Delta p_{(oil)} = \text{constant} (\sim 2 \text{ bar}) \Rightarrow Q_{(oil)} = \text{constant}$$

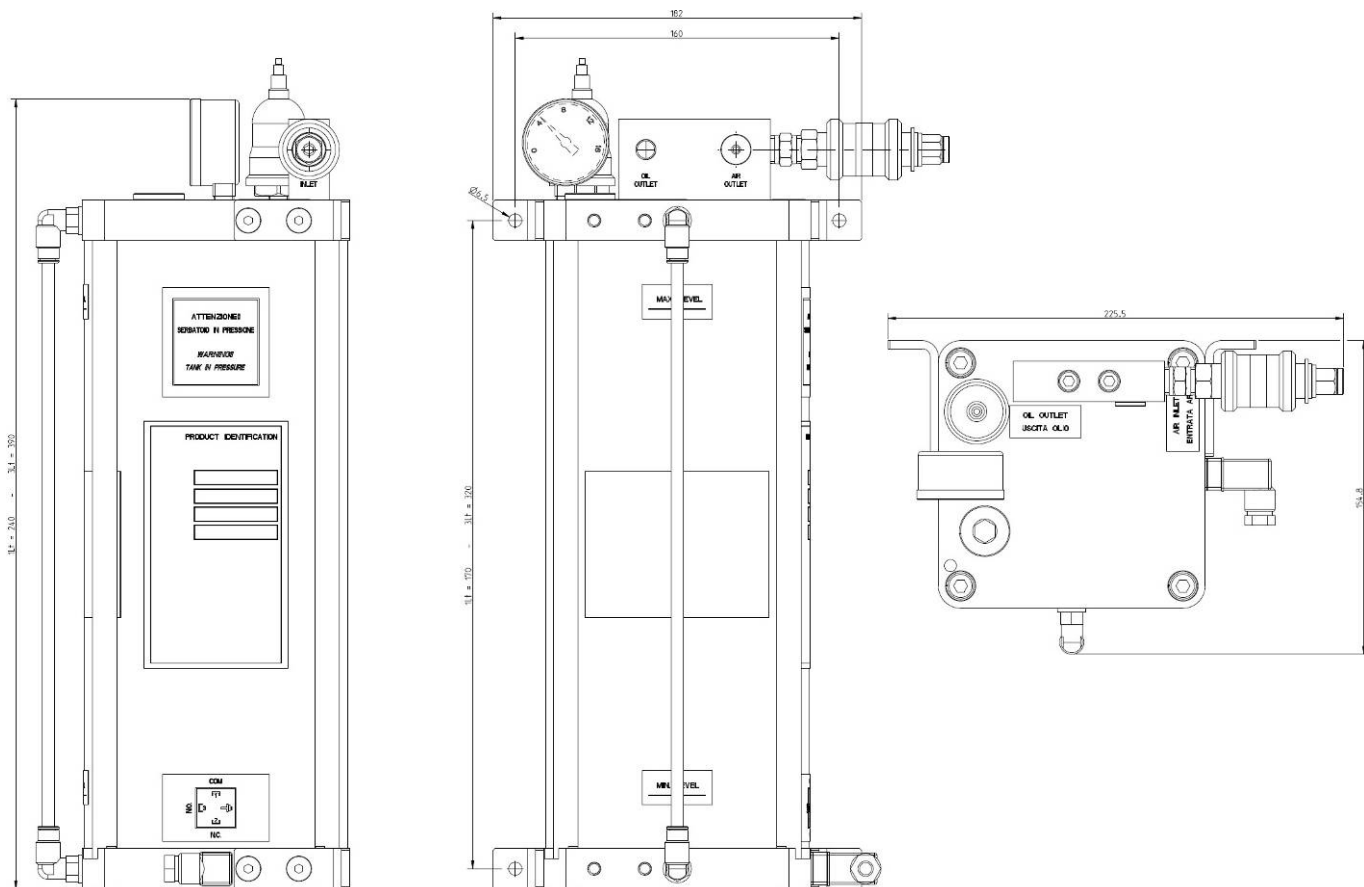
TECHNICAL SPECIFICATIONS

Tank capacity	1lt – 3lt		
Maximum number of modules	8		
Air inlet pressure	4bar ÷ 7bar		
Maximum air consumption at the outlet	~50NI/min (per module)		
Air inlet pipe	Ø10mm		
Air outlet pipe	Ø6mm		
Oil outlet pipe	Ø3mm		
Oil flow rate per element	PRO	0,1 ÷	2,7 cc/min (Oil 10cSt)
		0 ÷	1 cc/min (Oil 32cSt)
		0 ÷	0,2 cc/min (Oil 100cSt)
BASE	0,3 ÷	8 cc/min (Oil 10cSt)	
	0,1 ÷	3 cc/min (Oil 32cSt)	
	0 ÷	0,6 cc/min (Oil 100cSt)	
CART	cc/min = (P × 8,16)/V P = Operating pressure in [bar] V = viscosity [Engler] at operating temperature		
Lubricating oil	10cSt ÷ 100cSt		
Protection grade of module “-j”	Standard	IP 00	
	On request (special)	IP 65	
Element solenoid valve power supply	24Vdc- 1,3 W - 0,05 A		
Operating temperature	+5°C ÷ +50°C		
Storage temperature	-10°C ÷ +80°C		
Max. relative humidity without operating condensate	90%		
Sound pressure level	< 70 dB(A)		

DIMENSIONS



Reservoir for MiQuel EXT (optional)



ORDERING INFORMATION

VERSIONS	Description	Moduli	Codice	Modules	Part. No	Q.ty
MiQueL PRO	Air/Oil modular minimal system with compensation valve without a solenoid valve for independent control modules	1	3135581	○ 5	3135585	○
		2	3135582	○ 6	3135586	○
		3	3135583	○ 7	3135587	○
		4	3135584	○ 8	3135588	○
MiQueL PRO - €	Air/Oil modular minimal system with compensation valve with a solenoid valve for independent control modules	1	3135591	○ 5	3135595	○
		2	3135592	○ 6	3135596	○
		3	3135593	○ 7	3135597	○
		4	3135594	○ 8	3135598	○
MiQueL BASE	Air/Oil modular minimal system without compensation valve without a solenoid valve for independent control modules	1	3135601	○ 5	3135605	○
		2	3135602	○ 6	3135606	○
		3	3135603	○ 7	3135607	○
		4	3135604	○ 8	3135608	○
MiQueL BASE - €	Air/Oil modular minimal system without compensation valve without a solenoid valve for independent control modules	1	3135611	○ 5	3135615	○
		2	3135612	○ 6	3135616	○
		3	3135613	○ 7	3135617	○
		4	3135614	○ 8	3135618	○
MiQueL EXT - BASE - € - IP65	Air/Oil modular minimal system external pump without compensation valve with solenoid valve for independent control	1	3135391	○ 5	3135395	○
		2	3135392	○ 6	3135396	○
		3	3135393	○ 7	3135397	○
		4	3135394	○ 8	3135398	○
MiQueL EXT - CART - €	Air/Oil modular minimal system external pump without compensation valve and oil adjustment with a solenoid valve for independent control	1	3135631	○ 5	3135635	○
		2	3135632	○ 6	3135636	○
		3	3135633	○ 7	3135637	○
		4	3135634	○ 8	3135638	○
MiQueL EXT - CART - € - no EV	Air/Oil modular minimal system external pump without compensation valve and oil adjustment without solenoid valve for independent control with valves	1	3135651	○ 5	3135655	○
		2	3135652	○ 6	3135656	○
		3	3135653	○ 7	3135657	○
		4	3135654	○ 8	3135658	○

ACCESSORIES AND SPARE PARTS

Description	Part. No	Description	Part. No	Q.ty
MiQueL PRO- € - Modular element	1525430	○ Swivel push-in 90° Ø8 pipe	3084672	○
MiQueL PRO - Modular element	1525440	○ Swivel push-in 90° Ø6 pipe	3084566	○
MiQueL BASE- € - Modular element	1525450	○ OR gasket oil output	3190432	○
MiQueL BASE - Modular element	1525460	○ OR gasket air output	0018808	○
MiQueL BASE- € - IP65 - Modular element	1525456	○ Screws end closing	0014072	○
MiQueL CART- € - Modular element	1525688	○ Silencer filter	0031021	○
MiQueL CART- € - Without SV - Modular element	1525871	○ Inlet element assembly screws	0014094	○
Inlet element block	1525427	○ Outlet oil Ø3 tube	5717232	○
End cover	1525420	○ Ø6 AIR outlet pipe	5717301	○
Double cone straight connector with Ø6 pipe	0093070	○ Oil MK 150 20 lt.	3226664	○
Pressure gauge for module AIR outlet (-€)	0020694	○ Oil MK 100 25 lt.	3226665	○
Module solenoid valve connector (-i)with 600mm cable	1525446	○ Oil MK High Performance 29 lt.	3226666	○
Module solenoid valve connector (-i)with M8 connector	1525476	○ Oil MK Stainless 20 lt	3225465	○
Module solenoid valve (-€)	1525442	○ Coaxial nozzle - Narrow Cone Pattern	3133455	○
Pressurized Reservoir for MiQueL EXT - 1lt	3133561	○ 65° Coaxial nozzle - flat cone	3133558	○
Pressurized Reservoir for MiQueL EXT - 3lt	3133560	○ FULL cone monotube nozzle	3133564	○
Electric minimum level sensor (reservoir)	1525431	○ 65° monotube nozzle flat cone	3133565	○
Electric minimum level connector (reservoir)	0039841	○ Monotube nozzle for 50mm BLADE	1525050	○
Pressure gauge calibrated at 6 bar (reservoir)	3291028	○ Monotube nozzle for 70mm BLADE	1525051	○
Pressure gauge (reservoir)	0020557	○ Device to remove Ø3 tube	1525475	○