

## FEATURES

- TWO SEPARATE REVENUE FOR AIR AND OIL
- USE ANY TYPE OF LUBRICANT WITH VISCOSITY BETWEEN 15 AND 1000 CST AT A FLUIDS WORKING TEMPERATURE BETWEEN 0°C AND 80°C.

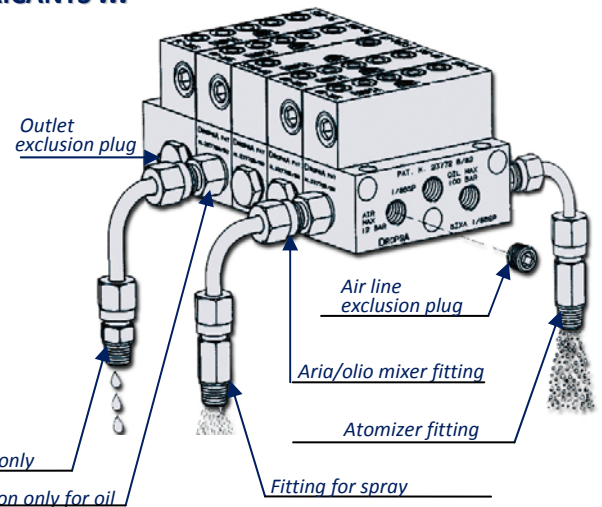
## AIR/OIL MIXING VALVE

THE KEY TO REDUCING THE USE OF LUBRICANTS ...  
... INCREASING PRODUCTIVITY !

The mixing valve SMX is the base of Air/Oil progressive modular system.

The Air/Oil dispenser applies the SMX progressive modular dispenser to air/oil system.

Modular elements are assembled on sub-base that delivers – through special fitting- Air/Oil mixture or, as needed, only oil.



## OPERATION PRINCIPLES OF THE AIR /OIL SYSTEM

Key elements of "AIR / OIL" system are:

- Progressive dispensers block SERIAL SMX
- AIR/OIL Fitting

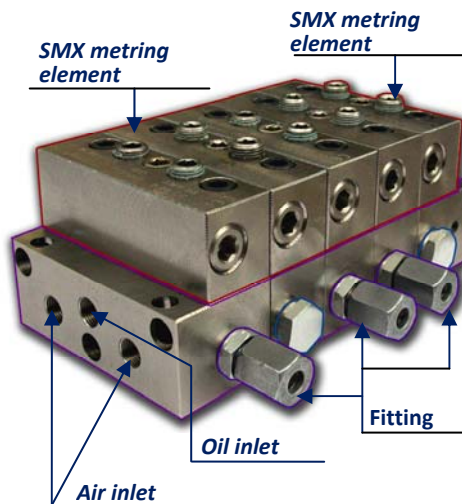
## ADVANTAGES

- MODULAR CONCEPT
- ECONOMY IN LUBRICANT
- CONTROL FUNCTION

### SERIAL SMX

The SMX Air/Oil has two inlets for compressed air connected to both the right and left outlets of the base and one inlet for oil.

Oil accurately metered by SMX metering elements through the special "Air-oil" fitting mounted on the outlets of the base is injected into the air stream.



Just by changing the fitting on the outlet parts of the SMX Air/Oil and on the lubrication points it is possible to spray fine (atomizer fitting) or course (spray fitting) Air/Oil mixture on the bearing or to deliver oil (oil fitting) to other friction points such as slides, gears etc.. this means that in one assembly you can have the three possibilities as mentioned above. The Air/Oil system is economic because lubricant quality is accurately metered and is independent from oil viscosity.

The "Air/Oil" system is safe to use and is no health hazard to the operator since no oil mist is produced.

## APPLICATIONS

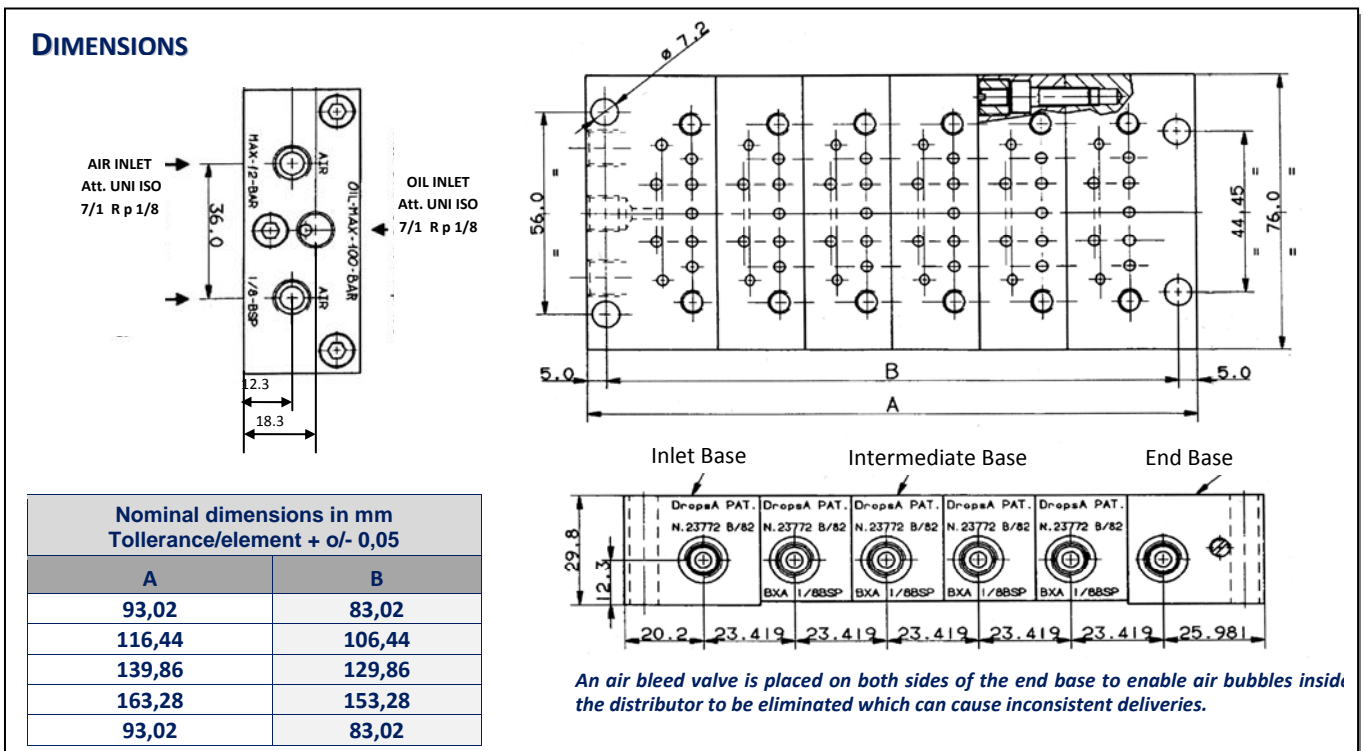
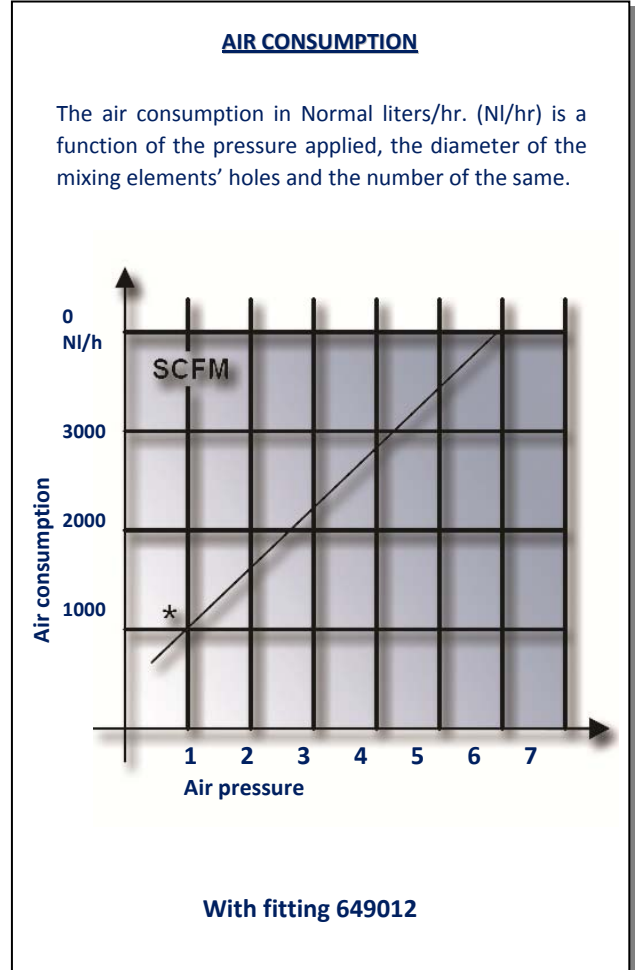
- ROLLING MILLS
- ROLLING MILL BOX GUIDE
- FORMATION OF LOOP
- WINDING MACHINES
- HOLDING SUPPORT EXTENSIONS
- CENTERING TABLES
- ROLLER BEARING
- STRAIGHTENERS
- SIZES
- STRIP TRAIN
- STEELL MILLS

### AREAS OF AIR/OIL LUBRICATION APPLICATION

- Lubrication of high speed rotating elements, where a steady distribution of small quantities of lubricant is required and is able to maintain, between moving elements, the lubricating film which tends to be carried off by the high centrifuge power.
- Lubrication of machinery parts working at high temperatures where the lubricant tends to be dried or burned spray lubrication of chains or gears
- Lubrication of slides and ways which require a thin film of lubricant all over their surface
- Lubrication of bearings which need protection for dust infiltration, water or other damaging substances. The mixed air flow creates a slight over pressure inside the lubricated element, preventing the ingress of other polluted bodies
- Lubrication of point which cannot be reached by traditional lubrication system, where only an oil spray a solve the problem.

## THE ADVANTAGES OF AIR/OIL LUBRICATION

- **MODULAR CONCEPT**  
Of the SMX progressive metering elements allows flexibility of the lubrication system to suit the need of the installed project.
- **COMPATIBILITY**  
With DROPSA progressive system installations. The air-oil distributor is compatible with the traditional SMX systems thus allowing to fit one or more air-oil distributor on existing installations, it's only necessary to have a compressed air generator.
- **ECONOMY IN LUBRICANT**  
The oil delivered into air stream is accurately metered according to the effective requirement of the lubrication point. This avoids expensive lubricant wastage.
- **LUBRICANT VISCOSITY**  
It is possible to use any type of lubricant with viscosity between 15 e 1000 cSt at a fluids working temperature between 0°C e 80°C (32°F ÷ 176°F). The best conditions are obtained with oil viscosity between 32 e 320 cSt at a temperature 40°C (104° F)
- **COOLING OF LUBRICATED PARTS**  
The continuous supply of a mixed air stream, besides lubricating, also has a cooling effect.
- **RETAINING ACTION**  
The over pressure inside the lubricated element prevents the ingress of foreign bodies.
- **CONTROL FUNCTION**  
Thanks to the progressive system, the malfunctioning of a metering element is signalled by a control device.
- **ENVIRONMENT FRIENDLY**  
The Air/Oil system does not produce oil mist and therefore does not produce fogging.



## AIR/OIL FITTINGS

Special Air/Oil fittings are two types:

- **fittings to be mounted on base outputs**
- **connectors to be mounted on lubrication points**

Depending on the connectors mounted you can have following types of lubrication:

### Lubrication with oil atomised

(air/oil fine mixture with terminal atomizer)

### Lubrication spray

(air/oil rough mixture type with terminal spray)

### Lubrication with only oil

(with terminal spray)

## FITTING OUT OF THE BASE

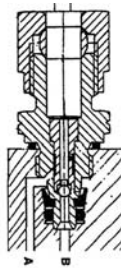
### ATOMISED OIL FITTINGS AND SPRAY OIL FITTINGS

Fittings to be mounted on the base. Oil introduced from the metering chamber of SMX metering unit, is delivered through passage "A" into the oil fitting where it is brought into the compressed air stream which reaches the same fitting through passage "B".

- **Part. No. 649006** for tube  $\varnothing 6$ .
- **Part. No. 649029** for tube  $\varnothing 1/4$

If there was the necessity that the distributor works even if there are the exclusion of the outlets, you have to mount the fittings on the base.

- **Part. No. 649579** for tube  $\varnothing 6$ .
- **Part. No. 649580** for tube  $\varnothing 1/4$

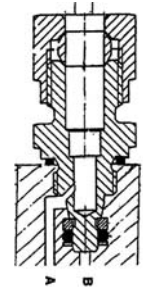


### FITTINGS FOR OIL LUBRICATION

Connector fitting to be mounted on the base.

Air passage "B" is closed, thus the lubrication point will get oil through passage "A" only.

- **Part. No. 649007** for tube  $\varnothing 6$

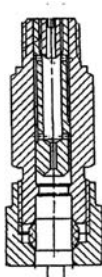


## FITTING THE POINT

### ATOMISED OIL FITTINGS

Connector fitting to be mounted on lubrication point. Inside the fittings there is a small part in which the speed of mixed oil/air stream is increased causing the fragmentation.

- **Part. No. 649012** (R 1/8 UNI-ISO 7/1) for tube  $\varnothing 6$
- **Part. No. 649013** (1/8 NPTF) for tube  $\varnothing 6$
- **Part. No. 649032** (1/8 NPTF) for tube  $\varnothing 1/4$ "

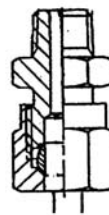


### SPRAY OIL FITTING

Connector fitting to be mounted on lubrication point.

The oil spray is obtained with the fragmentation, inside the fitting, of oil drops delivered by the air.

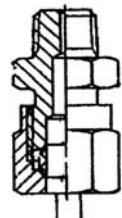
- **Part. No. 649014** (R 1/8 UNI-ISO 7/1) for tube  $\varnothing 6$
- **Part. No. 649015** (1/8 NPTF) for tube  $\varnothing 6$
- **Part. No. 649033** (1/8 NPTF) for tube  $\varnothing 1/4$ ".



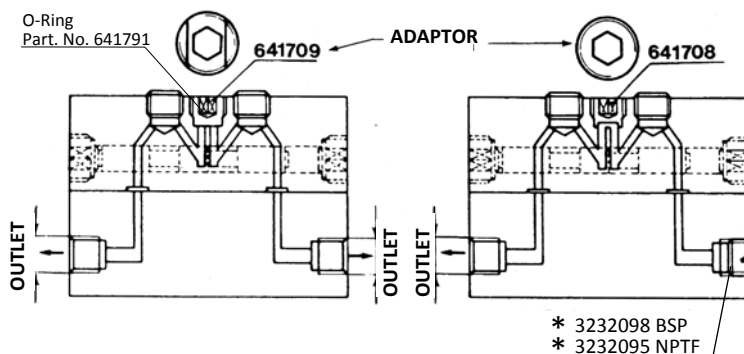
### FITTINGS FOR OIL LUBRICATION

Connector fitting to be mounted on lubrication point

- **Part. No. 91946** (R 1/8 UNI-ISO 7/1)
- **Part. No. 91944** (1/8 NPTF)



## SINGLE AND DOUBLE OUTLET CONVERSION



\* Order separately

It's possible to double the delivery of a single element by removing the O-ring **Part. No. 641791** (use the central hole) and by replacing the Yellow Adapter **Part. No. 641709** with the White adapter **Part. No. 641708** as shown in the drawing. In order to guarantee either a proper seal or easy dismantling of the adaptor, the torque setting should be set 0,8-1 Kg m (8 - 10 Nm).

The torque setting for the plugs that are mounted on the side of the element would be 1 Kg m (10Nm).

The torque setting for the fixing screws to mount the element on the base is 0,5 Kg m (5 Nm).

When converted into single, plug off the second outlet.

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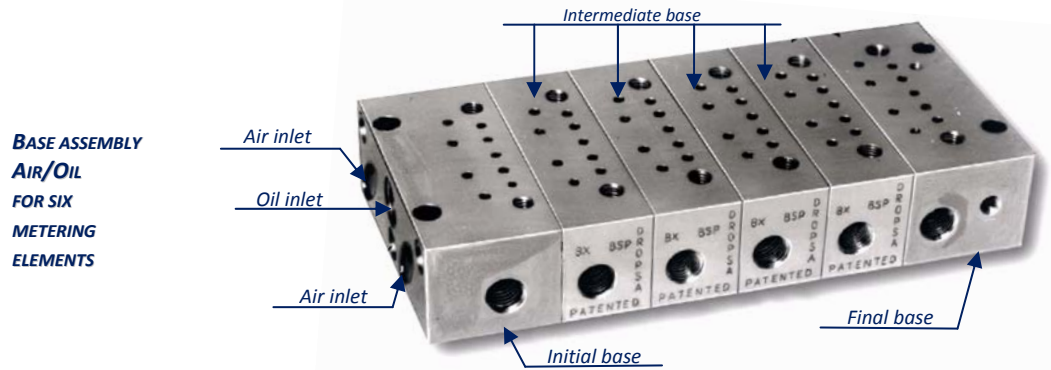
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**ORDERING INFORMATION**

- 1) Select the code of base assy. According to the number of metering units to be mounted (see table below)
- 2) Select the codes of SMX metering or units or select the delivery and other technical information
- 3) Select the code of fittings mounted on lubrication points (see next page)
- 4) Select the code of fittings mounted on lubrication points (see next page) (vedi pag. precedente)

*Note: To connect base fitting and end fittings a 6m. m. external diameter pipe to be used*


**COMPONENTS CHOOSE**

Description	Part. No.		Mark
	R1/8 UNI-ISO 7/1	(NPTF)	
Final Base	649055	649055	BFXA
Intermediate base	649054	649054	BXA
Initial base	649053	649023	BIXA
Outlet exclusion plug	649008	649008	
Oil outlet fitting	649007	649007	
Air/Oil fitting	649006	649006	
Air line exclusion plug	3232098	3232095	
Fitting for oil only	91946	91944	
Atomiser fitting	649012	649013	
Fitting for spry	649014	649015	

**CODES OF BASE ASSEMBLY**

NUMBER OF METERING UNITS	BASE ASSY.	
	R1/8 UNI-ISO 7/1	BASE ASSY. NPTF
3	649153	649173
4	649154	649174
5	649155	649175
6	649156	649176
7	649157	649177
8	649158	649178
9	649159	649179
10	649160	649180
11	649161	649181
12	649162	649182

The base assembly is made of one inlet base, one or more intermediate bases one end base.

**CODES OF DISTRIBUTORS**

SMX METERING ELEMENT				SMX BRIDGE ELEMENT					
Delivery per outlet		1 or 2 outlets		left		left-right		right	
cm <sup>3</sup>	cu. in.	Description	Cod.	Description	Cod.	Description	Cod.	Description	Cod.
0.04	.0024	SMX 04	641825	SMX 04L	641826	SMX 04LR	641827	SMX 04R	641828
0.08	.005	SMX 08	641516	SMX 08L	641629	SMX 08LR	641637	SMX 08R	641621
0.16	.010	SMX 16	641517	SMX 16L	641630	SMX 16LR	641638	SMX 16R	641622
0.25	.015	SMX 25	641518	SMX 25L	641631	SMX 25LR	641639	SMX 25R	641623
0.35	.021	SMX 35	641519	SMX 35L	641632	SMX 35LR	641640	SMX 35R	641624
0.40	.025	SMX 40	641520	SMX 40L	641633	SMX 40LR	641641	SMX 40R	641625
0.50	.030	SMX 50	641521	SMX 50L	641634	SMX 50LR	641642	SMX 50R	641626
0.60	.036	SMX 60	641522	SMX 60L	641635	SMX 60LR	641643	SMX 60R	641627
0.65	.040	SMX 65	641523	SMX 65L	641636	SMX 65LR	641644	SMX 65R	641628

**OPTIONAL**

DESCRIPTION	CODE
Ultrasensor – Sensor for SMX	1655305