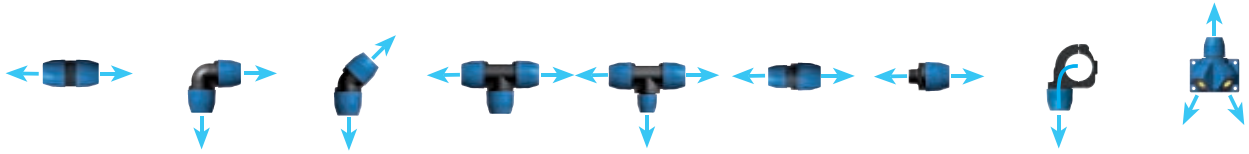


The table below indicates the correspondence to pipe meters for every assembled fitting. The equivalent length obtained from all fittings will be added to the average length of the installed pipe.



	QLMAPA	QLGO90PA	QLGO45PA	QLTEPA	QLTRPA	QLRIDPA	QLMNPA	QLDERPA	QLAPL
16	0,1	0,7		0,1			0,1		0,8
20	0,2	1,2	1	0,2	1,3		0,2		1,2
25	0,2	1,5	1,2	0,3	1,8	0,5	0,2	1,8	1,5
32	0,3	2	1,3	0,3	2,4	0,6	0,3	2,4	
40	0,3	2,4	1,6	0,4	3	0,7	0,3	3	
50	0,4	3	2	0,4	4	1	0,4	4	
63	0,5	3,5	2,5	0,5	4,5	1,5	0,5	4,5	
80	0,7	4,8		0,7	5,5	2	0,7	5,5	
110	0,8	6		0,8	6,5	2,5		6,5	

## PLANT LENGTH

When we know the service pressure, the required flow and the length of the pipe from the compressor line to the most distant air user (considering the sum in meters of the equivalent lengths - see table 1), we will be able to calculate the correct dimensioning of the main pipe.

### CHOICE OF THE QLTUAL PIPE FOR THE MAIN RING

Values referred to a 8 Bar pressure and a maximum pressure drop of 5%  
Distance between the compressor and the most distant user (in meters)

Nm <sup>3</sup> /h	NI / min	25	50	100	150	200	300	400	500	1000
36	600	16	16	20	20	25	25	25	25	32
54	900	16	20	20	25	25	25	32	32	40
72	1200	20	25	25	25	32	32	32	32	40
105	1750	25	25	32	32	32	40	40	40	50
150	2500	25	32	32	32	40	40	40	50	50
210	3500	32	32	40	40	40	50	50	50	63
270	4500	32	32	40	40	50	50	50	50	63
360	6000	40	40	40	50	50	50	63	63	63
510	8500	40	40	50	50	50	63	63	63	80
720	12000	50	50	50	63	63	63	80	80	80
1080	18000	50	63	63	63	80	80	80	80	
1260	21000	63	63	63	80	80	80	80		
1860	31000	63	80	80	80	80				
2700	45000	80	80	80						

ACCORDING THE TABLE INDICATIONS THE MAXIMUM PRESSURE DROP WILL BE APPROX 5%

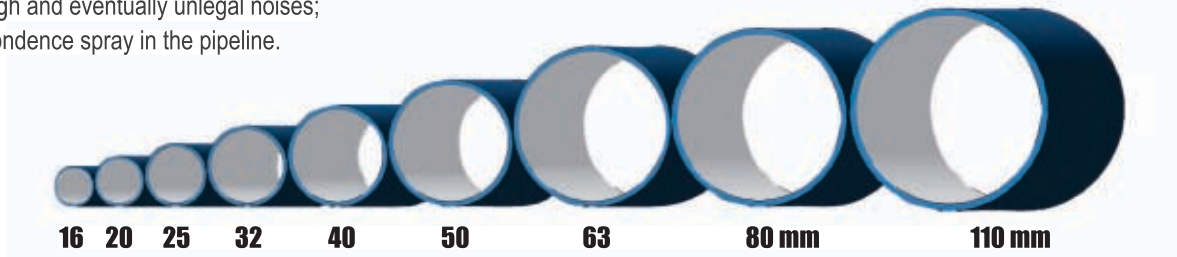
If the instant flow rate is equal or inferior to the one produced by the compressor and the ring is shorter than the suggested for a given pipe diameter, the pressure loss will not exceed 5%.

We recommend to use larger pipelines for possible future expansions and to avoid an excessive speed of the compressed air inside the piping system.

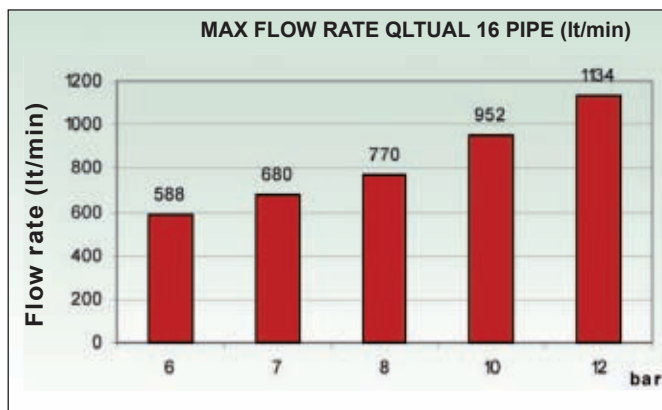
## FLOW RATE/PRESSURE DROP TABLE

We indicate hereunder the maximum suggested flow rate not to create high speed in the air flow which will determinate :

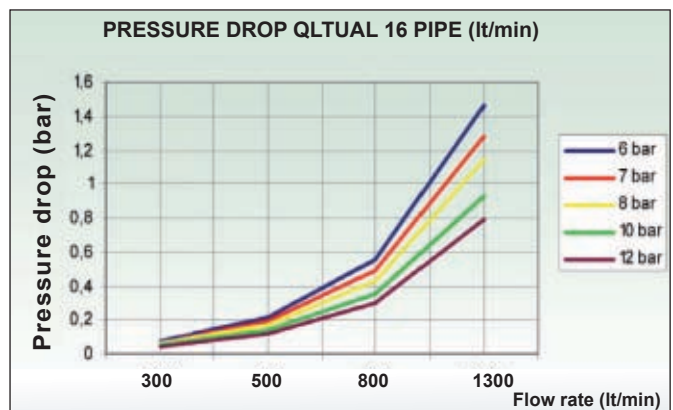
- Increase of turbulence with relative pressure drop;
- high and eventually illegal noises;
- condence spray in the pipeline.



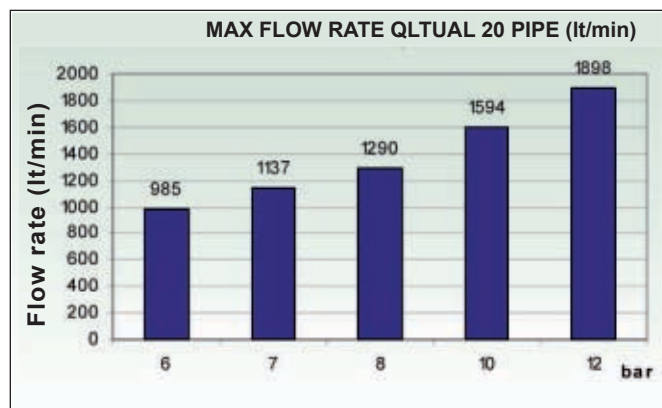
## PIPE FLOW RATE TABLES



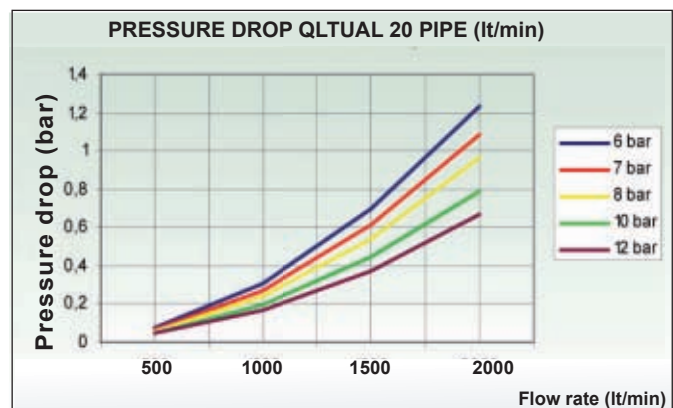
- Table 1a



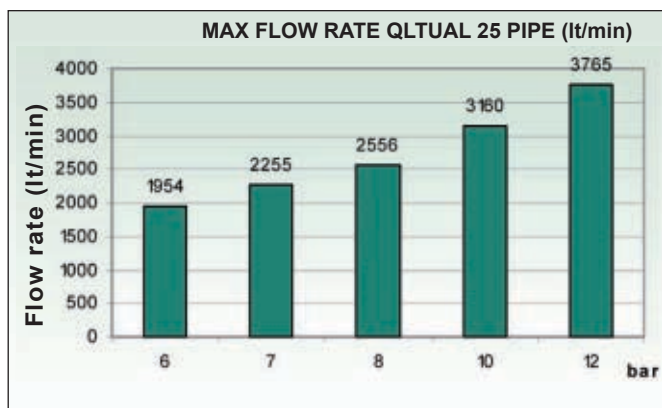
- Table 1b



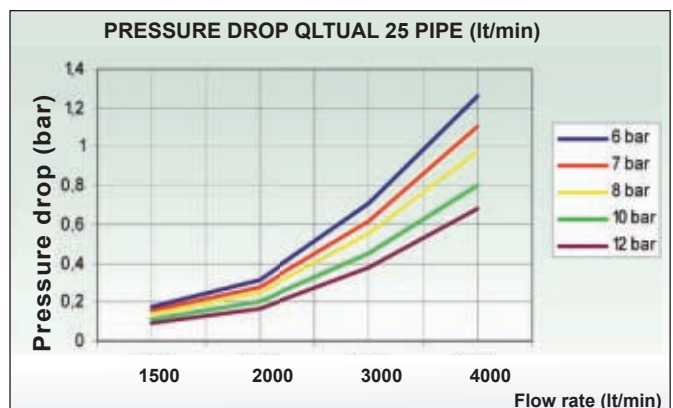
- Table 2a



- Table 2b

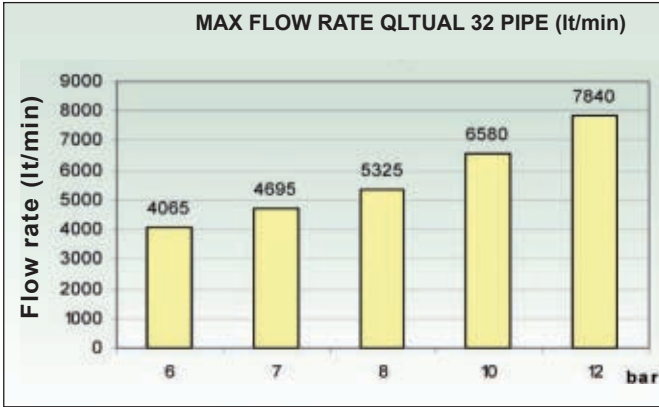


- Table 3a

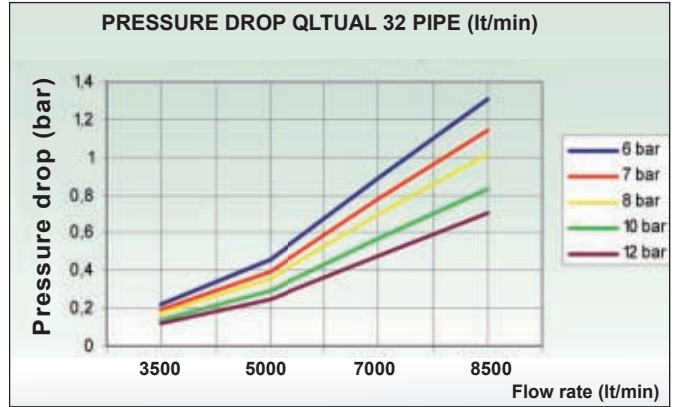


- Table 3b

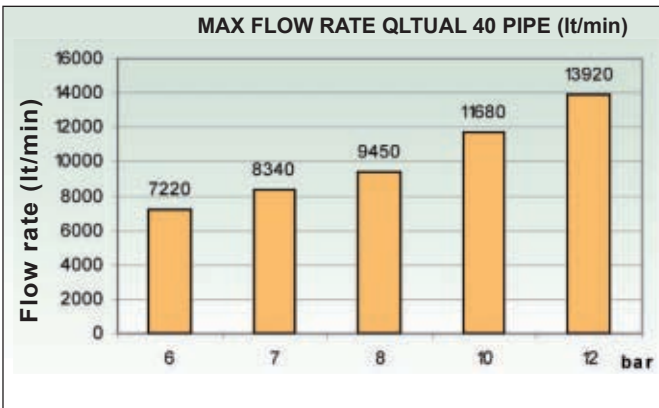
**PIPE FLOW RATE TABLES**



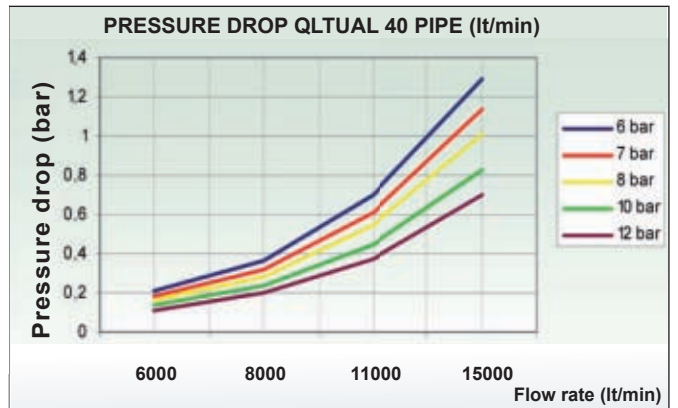
- Table 4a



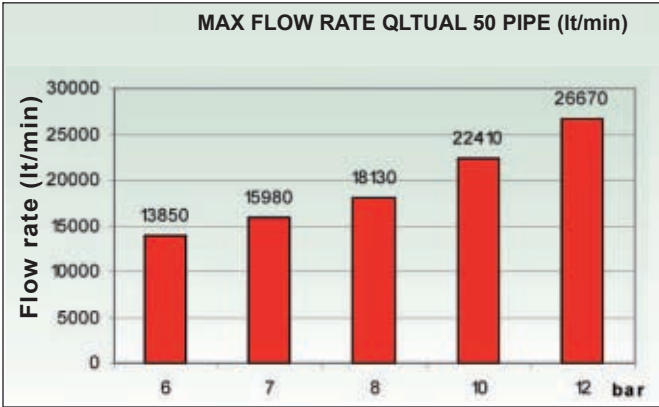
- Table 4b



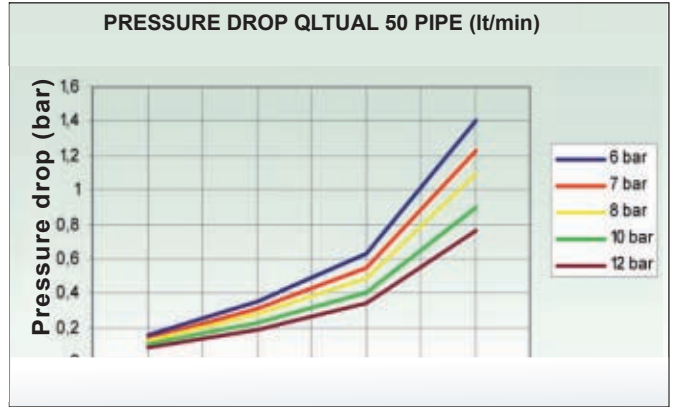
- Table 5a



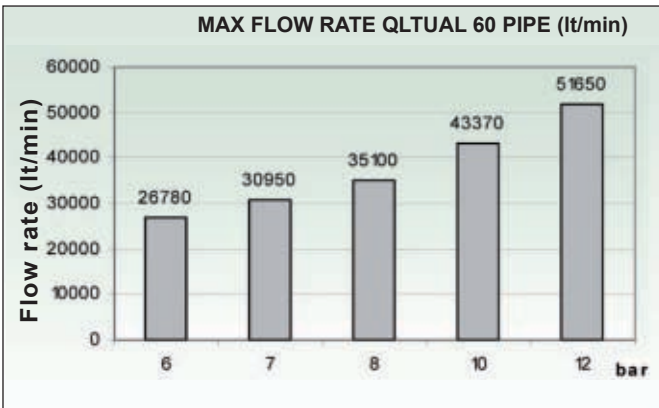
- Table 5b



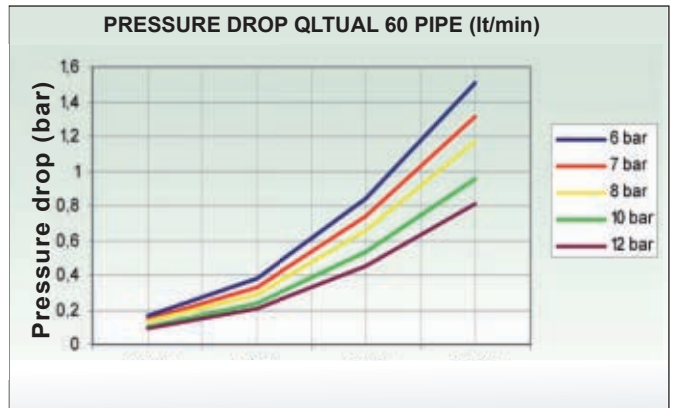
- Table 6a



- Table 6b

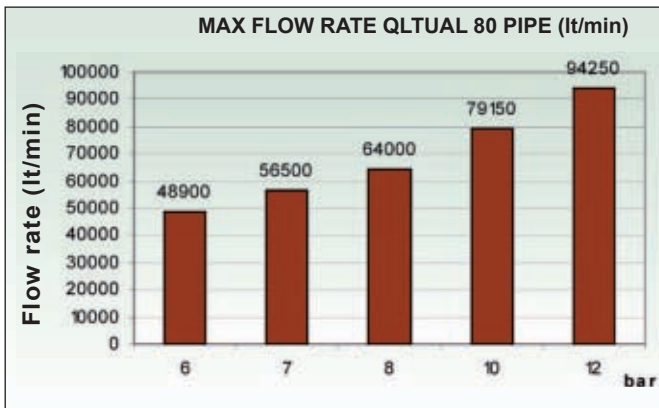


- Table 7a

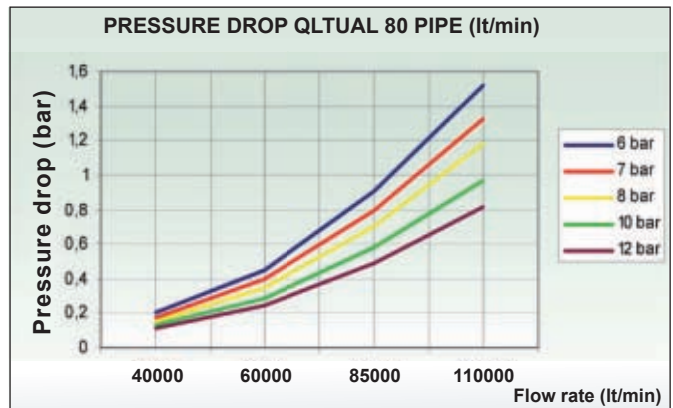


- Table 7b

## PIPE FLOW RATE TABLES



- Table 8a



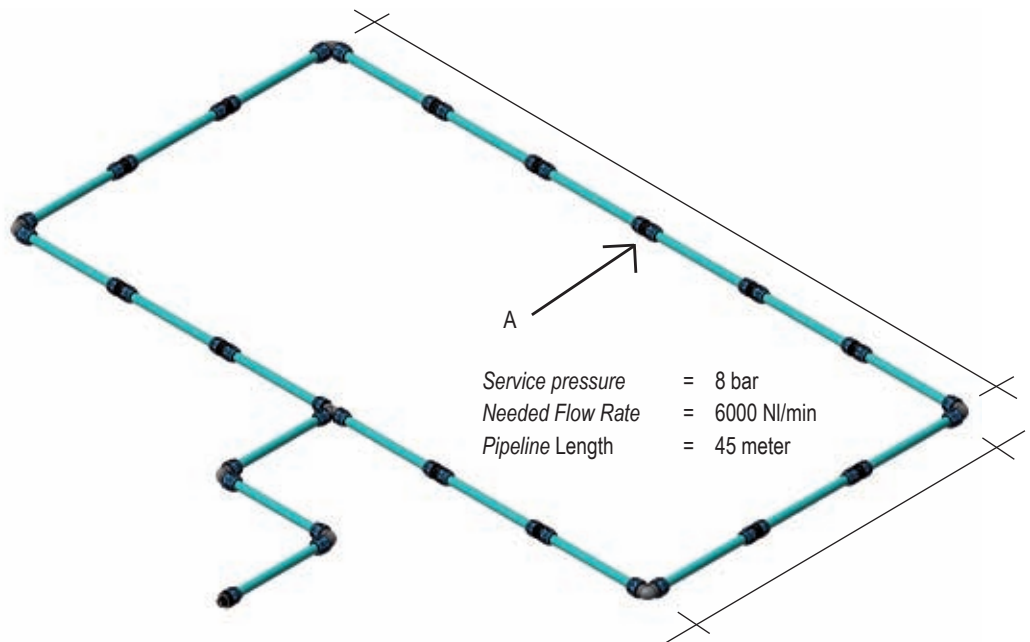
- Table 8b

### Ring dimensioning example and pressure drop calculation in a Quick Line worknet.

The most distant point, in the pipeline lay-out, from the compressor will be:

90/2 meters = 45 meters (point "A")

If we compare this value with the flow rate indicated in Table 5b (page xx) we shall obtain the pipe size we have to install (in this case 40 mm).



To know the pressure loss at point "A" we have to calculate the **equivalent length (Leq)**:

$$\text{Leq} = 45 \text{ mt} + (\leftarrow \text{---} \rightarrow, 0,3 \times 6) + (\downarrow \text{---} \rightarrow, 3,6 \times 4) + (\leftarrow \text{---} \rightarrow, 2,4 \times 1) + (\leftarrow \text{---} \rightarrow, 1,2 \times 1) = 64,8 \text{ mt}$$

If in table C we cross the flow rate of 6000 NI/min with the curve at 8 bar we get a pressure loss ( $\Delta p$ ) of 0,18 bar.

$$0,18 \text{ bar} : 30 \text{ mt} = \Delta p : \text{Leq}$$

$$\Delta p = \frac{0,18 \text{ bar} \times 59,7 \text{ mt}}{30 \text{ mt}} = 0,38 \text{ bar}$$

The pressure loss is lower than 5%.

The value obtained for a 30 mt pipeline is around 0,15 bar; as our datum is 95 t, the pressure loss will be :  $\Delta p = (95 \times 0,15) / 30 = 0,475 \text{ bar}$

In this calculation we did not consider pressure drops due to the possible presence of treatment groups : air drier, filters, etc.

These values may be found on the instructions manual of the machine or may be requested to the machine supplier.