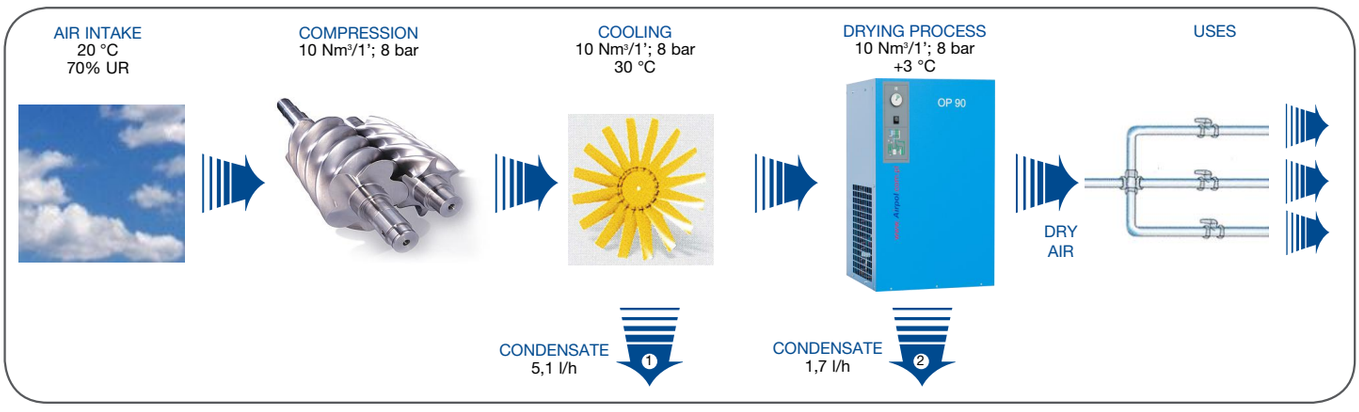
Using a dryer is worth it

Ambient air sucked by the compressor contains solid contaminants and water vapour. The compressor itself is also a source of contaminants (oil, wear products). Therefore, the air in the network after compression contains water vapour, dust and oil.

As heat is generated in the compression process, although being cooled the compressed air leaving the compressor is still so hot that when it contacts the external conditions the condensate causing corrosion and premature wear of pipelines and the installed equipment and tools is produced because of temperature difference. That results in disturbances and interruptions in operation and requires expensive maintenance and repair works that could be avoided by using the suitably selected additional compressed air treatment systems to obtain dry air free of contaminants.

The compressed air treatment involves its cooling, drying and removal of dust and oil. To achieve the above aims, there are used different solutions adapted to individual users' needs and based on the devices such as dryers, filters and separators. They ensure obtainment of the required compressed air quality - one of the most important energy carriers used in the technological processes.



For example, 5.1 l/h of condensate is separated from a compressor with an output capacity of 10 Nm^3/min and an ambient intake air temperature of 20°C and 70% relative humidity, whilst operating at a delivery pressure of 8 bar(g) and cooling the air to 30°C.

If the compressed air is then dried further to a dewpoint of +3°C, an additional 1.7 l/h of condensate can be separated.

Airpol

COMPRESSED AIR REFRIGERATION DRYERS

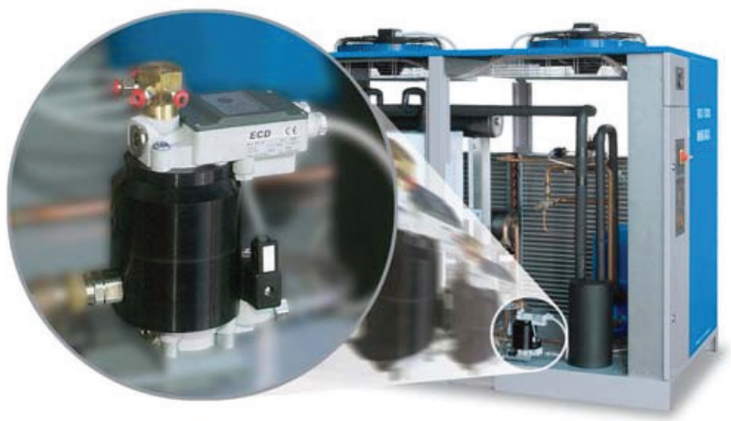
The refrigerant dryers are designed to remove water, moisture and vapour, having destructive and corrosion influence on the networks and pneumatic tools, from compressed air.

The compressed air at average temperature of +30^{0}C ÷ +45^{0}C supplied to the dryer, is initially cooled in the air to air heat to +14^{0}C ÷ +23^{0}C. Then the air is further cooled in the evaporator of the refrigerant circuit and achieves the set dew point of +3^{0}C, required to condensate water vapour existing in the compressed air circuit.

The use of dried compressed air makes it possible to limit the corrosion risk of tools, cylinders, pneumatic machines, air receivers, pipelines and also avoid damage of the final product e.g. paint coating.

Microprocessor controller (in OP 50 - OP 190)

Clear information on the present condition of the refrigeration compressor, fan and the necessity to carry out maintenance work.



Electronic drain valve, controlled by the level of condensate

Effective prevention of all compressed air loss.
Discharges only water, NOT compressed air = Energy savings
Noise-free, no acoustic impact = Environmental protection.
OPA 10 - OPA 40 dryers equipped with time controlled condensate drains.

Type	Flow*		Power consumption	Power supply	Connection	Overall dimensions			Weight	Refrigerant type
	m^3/h	m^3/min	W	V/Hz/Ph		L mm	W mm	H mm	kg	
OPA 10	50	0,8	260	230/50/1	G 1/2	372	404	380	25	R134a
OPA 20	72	1,2	280	230/50/1	G 1/2	372	424	380	30	R134a
OPA 30	110	1,8	320	230/50/1	G 1/2	372	424	446	34	R134a
OPA 40	140	2,3	420	230/50/1	G 5/4	460	440	500	43	R404A
OP 50	180	3,0	673	230/50/1	G 1	370	500	765	44	R404A
OP 60	216	3,6	793	230/50/1	G 1 1/2	460	560	790	53	R410A
OP 65	246	4,1	870	230/50/1	G 1 1/2	460	560	790	60	R410A
OP 70	312	5,2	1072	230/50/1	G 1 1/2	460	560	790	65	R410A
OP 80	390	6,5	1190	230/50/1	G 1 1/2	580	590	900	80	R410A
OP 90	462	7,7	1446	230/50/1	G 1 1/2	580	590	900	80	R410A
OP 100	600	10	1818	400/50/3	G 2	735	900	962	128	R410A
OP 110	720	12	2013	400/50/3	G 2	735	900	962	146	R410A
OP 120	900	15	2636	400/50/3	G 2	735	900	962	158	R410A
OP 130	1080	18	3568	400/50/3	G 2	735	900	962	165	R410A
OP 140	1440	24	3900	400/50/3	G 3	1020	1082	1535	325	R410A
OP 150	1800	30	4460	400/50/3	G 3	1020	1082	1535	335	R410A
OP 160	2100	35	5550	400/50/3	G 3	1020	1082	1535	350	R410A
OP 170	3000	50	6800	400/50/3	DN125	1020	2100	1535	550	R404A
OP 180	4200	70	10200	400/50/3	DN125	1020	2100	1535	600	R404A
OP 190	5040	84	12300	400/50/3	DN125	1020	2100	1535	650	R404A

***Reference conditions:**

Operating pressure	7 bar
Compressed air temperature	35°C
Ambient temperature	25°C
Pressure dew point	+3°C +/- 1 at 100% load

Limit conditions:

Min/max operating pressure	5 bar/16 bar (OPA10-OPA40); 5 bar/13 bar (OP50-OP190)
Max compressed air temp. on the inlet	+55°C
Min/max ambient temperature	+5°C/+45°C

Correction factors for operating conditions other than the declared reference conditions K=AxBXC														
Ambient temperature	°C	25	30	35	40	45								
	A	1,00	0,92	0,84	0,80	0,74								(OPA 10 - OP 90)
		1,00	0,91	0,81	0,72	0,62								(OP 100 - OP 190)
Compressed air temperature	°C	30	35	40	45	50	55							
	B	1,25	1,00	0,82	0,69	0,58	0,45							(OPA 10 - OP 90)
		1,00	1,00	0,82	0,69	0,58	0,49							(OP 100 - OP 190)
Operating pressure	bar	5	6	7	8	9	10	11	12	13	14	15	16	
	C	0,90	0,96	1,00	1,03	1,06	1,08	1,10	1,12	1,13	1,15	1,16	1,17	(OPA 10 - OP 90)
		0,90	0,97	1,00	1,03	1,05	1,07	1,09	1,11	1,12				(OP 100 - OP 190)

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