18 BARG OIL-FREE
DRY AIR SYSTEMS

40 BARG
DRY AIR SYSTEMS

As laser machines advance, dry air systems are also being used in cutting processes in addition to nitrogen and oxygen gases. Cutting with dry air is much more economical compared to nitrogen and oxygen gases. During cutting with dry air, there are technical details that need to be considered. Dry air should meet certain standards, and it should be free from oil and moisture. The air going from the last output point of the dry air system to the laser should be purified from oil and dust, and the dew point should be measured to ensure the final check before sending it to the laser cutting machine.
In FOREVER Dry Air Systems, high-pressure air produced in accordance with ISO standards is used directly as cutting air. The highpressure air terminates, the "old system of gas purchasing with tubes". There are no additional transportation costs, and the laborintensive task of transporting tubes is eliminated, along with the dangers associated with high-pressure tubes. By optionally adding a Dew Point Control Panel, a guarantee of oil-free and dry air to the laser head can be provided. Analyzers used in the system continuously measure and control the flow of dry and oil-free air. In the event of possible oil and condensation (moisture) problems in the compressed air, the system automatically shuts down, the airflow to the laser machine stops, and an audible and visual warning system alerts the operator. Thus, damage to the laser machine is prevented.

18 Barg "FOREVER" Dry Air Systems

In FOREVER 18 Barg Dry Air Systems, oil free booster compressors are used instead of traditional 25-40 Barg oilinjected booster compressors. This eliminates problems such as overheating of lenses, mirrors and glass caused by oil, water and particles in the compressed air produced by oil-injected boosters, thereby eliminating faults outside the warranty coverage.

Main advantages of FOREVER 18 Barg Dry Air Systems;

- 18 Barg dry and oil-free air
- Economical cutting opportunity
- - 40°C dew point
- Max. 0,003 mg/m3 oil content
- Max. 0.01 ppm particules
- 7/24 suitable for operation
- Ease to use
- Fully equipped safety system
- Fully automatic operation system
- Fast and perfect cutting
- 2-4 times faster compared to cutting with O2

18 Barg DRY AIR SYSTEMS				
MODEL	*FLOW RATE @ 18 Barg (m3/h)*	*POWER CONSUMPTION (kWH)*	*DRY AIR VESSEL VOLUME @ 18 Barg / lt*	*DEWPOINT*
FOREVER DRY AIR 60	60	11,5	500	-40/-70 C DWP
FOREVER DRY AIR 120	120	18,5	1000	-40/-70 C DWP
FOREVER DRY AIR 150	150	22,5	1000	-40/-70 C DWP
FOREVER DRY AIR 180	180	30,5	2000	-40/-70 C DWP
FOREVER DRY AIR 240	240	37,5	2000	-40/-70 C DWP
FOREVER DRY AIR 300	300	45,5	2000	-40/-70 C DWP

40 Barg "FOREVER" Dry Air Systems

Booster compressors used to compress air in the pressure range of 7-10 bars can efficiently meet the medium and high-pressure needs in the metal sector for laser cutting, laser and plasma cutting, and in the plastic sector for PET blowing and high-pressure gas injection. Our products are systems that ensure high efficiency operation 24 hours a day.

FOREVER 40 Barg Kuru Hava Sisteminin Başlıca Avantajları;

- 40 Barg dry air
- Economical cutting opportunity
- -40 °C dew point
- Max. 0.01 ppm particules
- 7/24 suitable for operation system
- Ease to use
- Fully equipped safety system
- Fully automatic operation system
- Fast and perfect cutting
- 2-4 times faster compared to cutting with O2

40 Barg DRY AIR SYSTEMS				
MODEL	*FLOW RATE @ 40 Barg (m3/h)*	*POWER CONSUMPTION (kWH)*	*DRY AIR VESSEL VOLUME @ 40 Barg / lt*	*DEWPOINT*
FOREVER DRY AIR 160	160	33,5	1000	-40/-70 C DWP
FOREVER DRY AIR 220	220	45,5	2000	-40/-70 C DWP
FOREVER DRY AIR 280	280	56	2000	-40/-70 C DWP

CHEMICAL AIR DRYERS							
MODEL	FLOW RATE (m^3/h)	FITTINGS		DIMENSIONS			DEWPOINT
		(DN)	(inch)	A (mm)	B (mm)	C (mm)	C DWP
FRV-CD-60	60	DN15	1/2''	400	350	1400	-40
FRV-CD-100	100	DN25	1''	500	400	1800	-40
FRV-CD-150	150	DN32	1 1/4"	500	400	1850	-40
FRV-CD-200	200	DN32	1 1/4"	500	450	1900	-40
FRV-CD-275	275	DN32	1 1/4"	500	450	2000	-40
FRV-CD-350	350	DN40	1 1/2"	600	450	2100	-40
FRV-CD-450	450	DN0	1 1/2"	800	550	2300	-40
FRV-CD-600	600	DN50	2''	850	600	2400	-40
FRV-CD-900	900	DN50	2''	850	700	2400	-40
FRV-CD-1000	1200	DN65	2 1/2"	1500	1250	2500	-40
FRV-CD-1500	1500	DN65	2 1/2"	1600	1400	2550	-40
FRV-CD-1750	1750	DN80	3"	1750	1500	2600	-40
FRV-CD-2150	2150	DN80	3"	1850	1500	2650	-40
FRV-CD-2550	2550	DN80	3"	1950	1600	2750	-40
FRV-CD-2950	2950	DN100	4"	2000	1750	2800	-40
FRV-CD-3650	3650	DN100	4"	2000	1800	2900	-40
FRV-CD-4450	4450	DN100	4"	2100	1850	3000	-40
FRV-CD-5100	5100	DN150	6"	2200	2000	3100	-40
FRV-CD-6200	6200	DN150	6"	2400	2000	3200	-40
FRV-CD-7100	7100	DN150	6"	2550	2100	3500	-40
FRV-CD-8750	8750	DN150	6"	2950	2250	3550	-40
FRV-CD-10700	10700	DN200	8"	3150	2450	3850	-40

FOREVER Chemical Air Dryers

Moisture is an unwanted characteristic in compressed air systems that can cause damage to processes and result in losses for users. It can lead to rusting of pipeline circuits, loss of diameter, and a series of related material problems. In polluted air, contact with production process equipment can cause malfunctions. Compressed air is dried to prevent condensation and corrosion that could disrupt production processes and contaminate products. In sectors where a dew point of +3°C obtained with a refrigerated dryer is insufficient, dew point can be lowered to levels as low as -70°C with this method.

FOREVER Chemical Air Dryer Systems, in simple terms, ensure the separation of unwanted water from compressed air by conducting a physical separation between tanks, thus effectively protecting your system.The two towers are filled with absorbent material. H20 molecules adhering to the surface of the absorbent material can easily detach from where they are adhered due to the effect of molecular forces. While the first tower dries the humid air, the second tower is refreshed with renewal air passed in the opposite direction. This is a physical reaction and can be applied countless times. With this system, completed by an activated carbon tower, you can both dry your compressed air at the desired dew point values and obtain oil-free, clean dry air.

CHEMICAL AIR DRYERS WITH CARBON TOWER							
MODEL	FLOW RATE (m^3/h)	FITTINGS		DIMENSIONS			DEWPOINT
		(DN)	(inch)	A (mm)	B (mm)	C (mm)	C DWP
FRV-CD-60	60	DN15	G 1/2"	700	400	1400	-40
FRV-CD-100	100	DN25	G 1"	800	400	1800	-40
FRV-CD-150	150	DN32	G 1 1/4"	800	400	1850	-40
FRV-CD-200	200	DN32	G 1 1/4"	800	450	1900	-40
FRV-CD-275	275	DN32	G 1 1/4"	800	450	2000	-40
FRV-CD-350	350	DN40	G 1 1/2"	900	450	2100	-40
FRV-CD-450	450	DN40	G 1 1/2"	1200	550	2300	-40
FRV-CD-600	600	DN50	G 2"	1300	600	2400	-40
FRV-CD-900	900	DN50	G 2"	1400	800	2400	-40
FRV-CD-1000	1250	DN65	G 2 1/2"	1500	1000	1400	-40

FLOW VELOCITY CALCULATION												
Correction factors for different operating conditions (Flow rate ratios m^3/min x k...)												
The operating pressure showing deviation at the dryer inlet p												
p bar(g)	5	6	7	8	9	10	11	12	13	14	15	16
kp	0,75	0,88	1	1,06	1,12	1,17	1,22	1,27	1,32	1,37	1,41	1,46

FOREVER DRY AIR SYSTEMS Reduces Your Costs...

The air pressurized by the compressor may contain particles emitting oil vapor and odor that could potentially damage the equipment in our process or lower production quality. To prevent this, we recommend using Forever Gas Activated Carbon Tower.

When selecting carbon tower models, factors to consider include air capacity, operating pressures, oil vapor retention capacity, physical dimensions, and maintenance requirements. When choosing a product, it is important to evaluate the specific technical specifications that meet your system needs. Forever Carbon Towers, which operate on the principle of retaining oil vapor and hydrocarbon odors with absorbent material, are indispensable for compressed air systems.

ACTIVATED CARBON TOWER		
Working temperature	1,5 - 45 °C	35 – 113 °F
Working pressure	0 - 16 bar(g)	0 - 232 psi
Differential pressure	Approximate 100mbar	0,29 psi
Flow rate	120 to 10,500 Nm³/h	
Oil vapor content (nominal) (³)	< 0,003 mg/m³	

MODEL 10 BARG	AKIŞ KAPASİTESİ		BAĞLANTI ÖLÇÜSÜ		AĞIRLIK	BOYUTLAR			MODEL 40 BARG	BAĞLANTI ÖLÇÜSÜ		AĞIRLIK
	(Nm³/h)	(sfcm)	(DN)	(inch)	(kg)	A (mm)	B (mm)	C (mm)		(DN)	(inch)	(kg)
FRV-CT-100	100	78	DN25	G 1"	36	160	250	1200	FRV-CT-40-100	DN25	G 1"	43
FRV-CT-150	150	117	DN25	G 1"	49	250	350	1200	FRV-CT-40-150	DN25	G 1"	59
FRV-CT-200	200	156	DN25	G 1"	70	300	350	1250	FRV-CT-40-200	DN25	G 1"	84
FRV-CT-250	250	195	DN32	G 11/4"	78	300	350	1500	FRV-CT-40-250	DN32	G 11/4"	94
FRV-CT-300	300	234	DN40	G 11/2"	95	360	400	1250	FRV-CT-40-300	DN40	G 11/2"	114
FRV-CT-400	400	312	DN40	G 11/2"	110	360	400	1500	FRV-CT-40-400	DN40	G 11/2"	132
FRV-CT-500	500	390	DN40	G 11/2"	140	360	400	1700	FRV-CT-40-500	DN40	G 11/2"	168
FRV-CT-600	600	468	DN50	G 2"	161	410	450	1300	FRV-CT-40-600	DN50	G 2"	193
FRV-CT-750	750	585	DN50	G 2"	192	410	450	1700	FRV-CT-40-750	DN50	G 2"	230
FRV-CT-900	900	702	DN50	G 2"	220	460	450	1500	FRV-CT-40-900	DN50	G 2"	264
FRV-CT-1000	1000	780	DN50	G 2"	238	460	450	1700	FRV-CT-40-1000	DN50	G 2"	286
FRV-CT-1250 F	1250	975	DN65	G 21/1"	285	510	500	1900	FRV-CT-40-1250 F	DN65	G 21/1"	342
FRV-CT-1500 F	1500	1170	DN65	G 21/1"	360	560	500	2000	FRV-CT-40-1500 F	DN65	G 21/1"	432
FRV-CT-1750 F	1750	1365	DN65	G 21/1"	398	610	600	2000	FRV-CT-40-1750 F	DN65	G 21/1"	478
FRV-CT-2000 F	2000	1560	DN65	G 21/1"	430	660	600	2000	FRV-CT-40-2000 F	DN65	G 21/1"	516
FRV-CT-2500 F	2500	1950	DN80	G 3"	495	660	600	2200	FRV-CT-40-2500 F	DN80	G 3"	594
FRV-CT-3000 F	3000	2340	DN80	G 3"	590	700	700	2000	FRV-CT-40-3000 F	DN80	G 3"	708
FRV-CT-4000 F	4000	3120	DN100	G 4"	765	800	800	2200	FRV-CT-40-4000 F	DN100	G 4"	918
FRV-CT-5000 F	5000	3900	DN100	G 4"	1000	850	850	2200	FRV-CT-40-5000 F	DN100	G 4"	1200
FRV-CT-6500 F	6500	5070	DN125	G 5"	1350	1000	1000	2500	FRV-CT-11-6500 F	DN125	G 5"	1620
FRV-CT-7500 F	7500	5850	DN150	G 6"	1500	1150	1150	2250	FRV-CT-11-7500 F	DN150	G 6"	1800
FRV-CT-10000 F	10000	7800	DN150	G 6"	1950	1150	1150	2500	FRV-CT-11-10000 F	DN150	G 6"	2340

WORKING PRESSURE															
(bar)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(psi)	23	44	58	72	87	100	115	130	145	160	174	189	203	218	232
Cop	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,5	1,63	1,75	1,88	2	2,13

WORKING TEMPERATURE						
(°C)	20	25	30	35	40	45
COT	1	0,98	0,97	0,92	0,86	0,75

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