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DENAIR Mobile Diesel Screw Air Compressor Presentation

DENAIR

Catalog

1. Diesel Mobile Air Compressor Summary

1.1 Outer Appearance for your reference

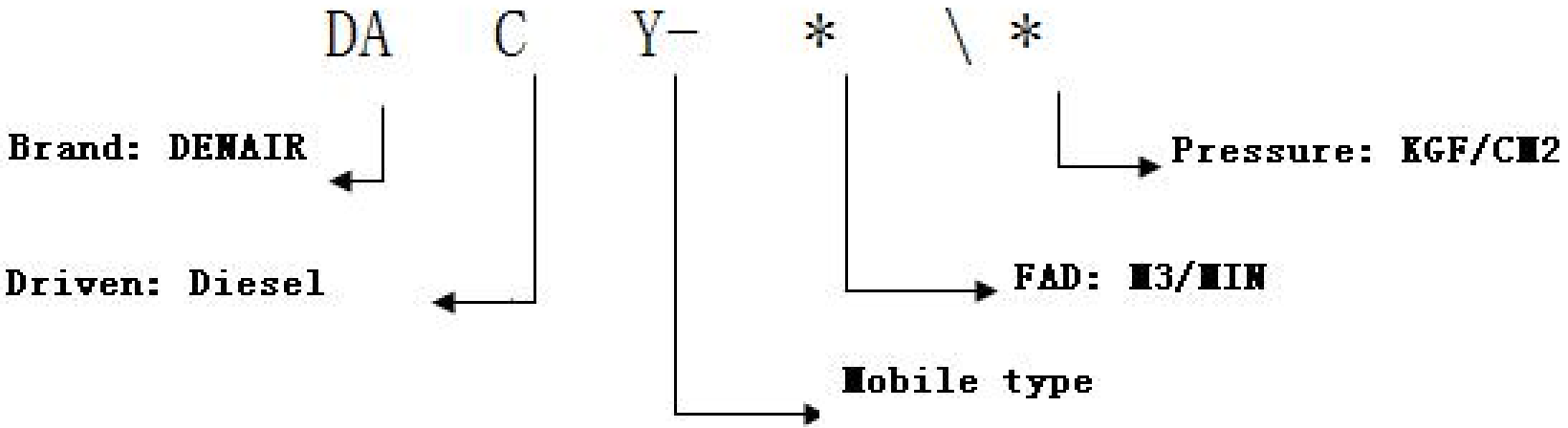
1.2 Specification

- Pressure： 7 ～ 35 Bar (102~5.8 psi)
- FAD： 3.2 ～ 45 m^3/min (140~1690 cfm)
- Power： 32 ～522 KW (472~710 HP)

1.3 Application Field

- Mining, Construction, Shipbuilding
- Road Project
- Slope anchorage, Greening
- Medium assembly manufacturing
- Mixing Machine, Drilling machine

2. Diesel Mobile Air Comprssor Model



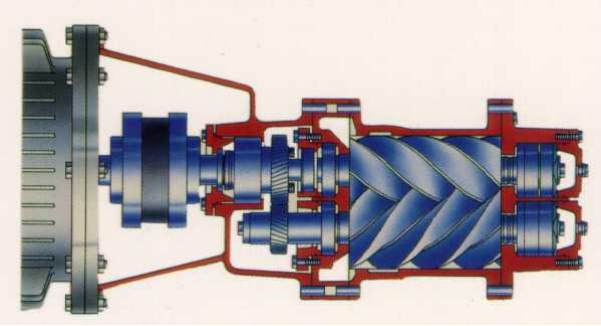
For example：**DACY-11/10** **DA**:DENAIR **C**: Diesel

Y:Mobile **11**：FAD around 11m3/min **10**：Pressure 10kgf/cm2=10bar

3. Diesel Mobile Air Compressor Main Parts

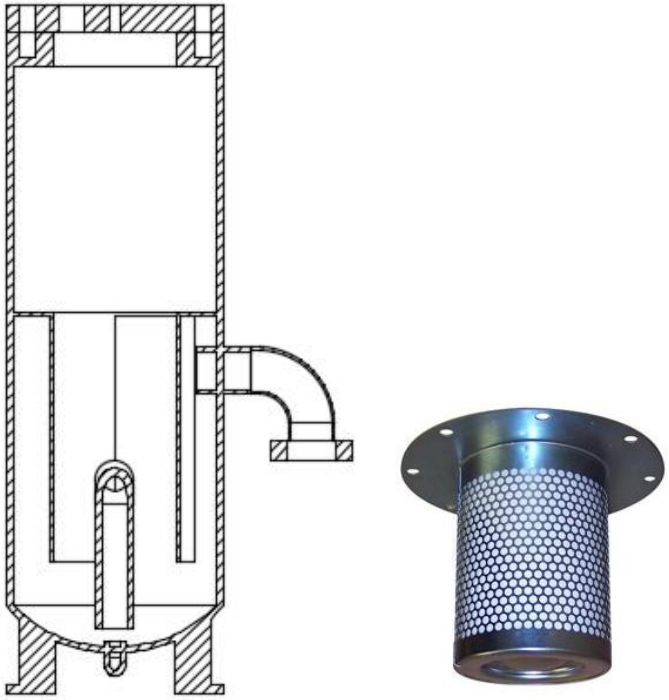
1) Screw Host	Description
   	●Rotor is manufactured in German processing equipment - to ensure dimensional accuracy ●Bearings use the world brand SKF --- longer life ●High volumetric efficiency --- ≥95% ●Low noise ●High load resistant design ●Maximum working pressure of single-stage host : 16bar ●Maximum working pressure of two-stage host: 35bar

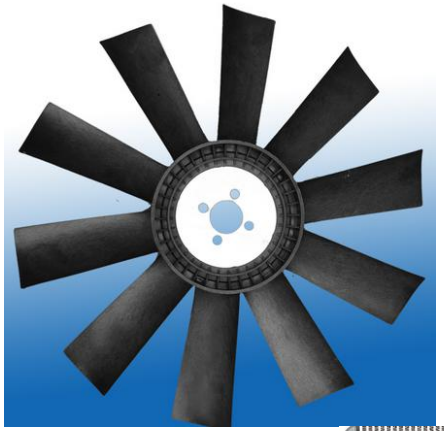
2) Diesel Engine	Description
	● High pressure fuel pump, full combustion, low energy loss, strong power, emission standard Euro-III. ●Integral HOLSET brand booster, response quickly under low speed. ● Integral cylinder design, parts quantity is about 25% less than similar equipment, lower failure rate and easier maintenance. ●Standard model use Cummins diesel engine, with global after-sales warranty.

3) Transmission Structure	Description
 	● German coupling for high reliability and long service life ● High elasticity, low vibration ● Good compensation capability in axial and radial direction. ●Compact, easy installation, free maintenance

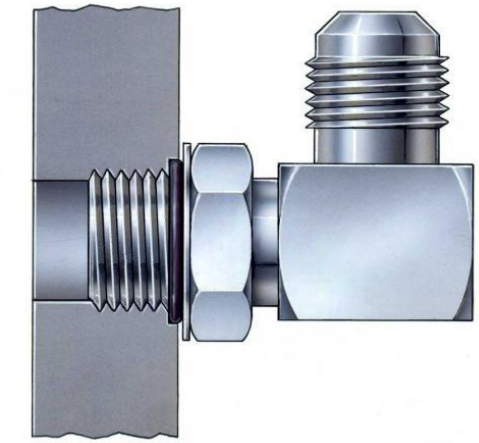
4) Air Filter System	Description
	● Suitable for harsh environment such as dust in the wild ● Remove 99.99% particles above 3 micron ● Filter element has a large surface area, long life, low pressure drop.

5) Inlet Air System	Description
	● Rugulate intake air flow according to different air consumption ● With unique check valve, ensure air inlet is closed quickly in the event of a shutdown, open quickly when compressor is working. ● Material is aluminum alloy, integrally formed, beautiful and light ● It is cleaned every 3 years and diaphragm is replaced occasionally as needed.

6) Oil Air Separator System	Description
	● DENAIR patent No.: ZL201520299918.0 ● Air and oil circuit--- isolation design ● System pressure drop is small: ≤0.02MPa ● Good separation effect: oil content ≤ 3ppm

7) Cooling System	Description
 	● Large heat exchanger design ● It uses oil-cooled water-cooled side-by-side cooling to achieve even cooling. ● Unique fin and channel design, good heat dissipation,easy to clean. ● Low-speed, low-noise axial fan with low operating noise ● Horizontal exhaust, optimize cooling effect.

8) Suspension system	Description
 	● Host vibration: shock absorber ● Shaft vibration: damping rods ● Double damping, the machine run more smoothly

9) Pipe System	Description
 	● Large diameter pipe and short length ---- minimize internal pressure drop ● Soft hose ----enhances vibration resistance; reduces noise ● SAE-O ring seals - the most effective seal prevention structure through the American Automobile Manufacturers Association

10) Control Panel	Description
 	● Easy to start and stop. ● With safety lights and digital monitor ● Working environment: -30 ° C ~ 60 ° C, relative humidity: ≤ 98% ● Accurately detect the corresponding data and has higher security.

4.Comparison Analysis

Brand / Content	DENAIR brand	A brand	B brand	C brand
Diesel engine	Cummins	Cummins	Yuchai	Yuchai
Pressure Mpa	0.7Mpa~3.5Mpa	0.7Mpa~2.0Mpa	0.7Mpa~2.5Mpa	0.7Mpa~2.0Mpa
Rotation	1400~2200	2500	2500	2500
Noise	Low	High	High	High
Air Filter	Plastic Crust	Screw Crust	Plastic Crust	Plastic Crust
Oil air separator	Germany MANN OEM	Shanghai FLJ	Germany MANN	Shanghai FL
Oil filter	Germany MANN OEM	Shanghai FL	Shanghai FL	Shanghai FL
Screw air end	Germany DENAIR	HANBELL	KS	BS

Model	**DACY-12/13**		
Specification	**two-stage host**	**single-stage host**	Difference
Host model	178L/1.25	1200RB	
Pressure（MPa）	1.3		
FAD（m³/min）	12.25	11.37	+7.74%
Shaft power（KW）	104.46	111	-5.89%
Engine rotation（RPM）	1950	2200	
Engine power（HP）	180		
Oil consumption（L/h）	25.2	26.8	-5.97%

Two-stage Compression Process								Single-stage Compression Process	Compression energy %
working pressure bar	1st inlet pressure bar	1st outlet pressure bar	**1st host compression ratio**	2nd inlet pressure bar	2nd outlet pressure bar	**2nd host compression ratio**	**Total host Compression ratio**	**Total compression ratio**	
7.5	1	3.5	3.5	3.5	7.5	2.14	5.64	7.5	**-24.8%**
8.5	1	3.5	3.5	3.5	8.5	2.43	5.93	8.5	**-30.2%**
10.5	1	3.5	3.5	3.5	10.5	3.00	6.50	10.5	**-38.1%**
12.5	1	3.5	3.5	3.5	12.5	3.57	7.07	12.5	**-43.4%**

5. Usage Notice

5.1 Diesel Choice

- GB252-94 standard, light diesel oil, cetane number > 45;
- Low viscosity fuels are unacceptable, which can result in diesel power loss up to 25 to 30%, while shortening the pump life.

Diesel No.	Use Temperature
0#	> 4 ℃
-10#	5~-4 ℃
-20#	-5~-14 ℃
-35#	-15~-29 ℃
-50#	-30~-44 ℃

5.2 Engine Oil Choice

- GB11122-2006 standard, above CF level diesel engine oil
- B and C series engines should use CF4/SG or CG4/SH grade oil.

Engine Oil No.	Use Temperature
15W-40 CF4	-10~-15 ℃
10W-30 CF4	-5~-20 ℃
5W-20 CF4	< -25℃

Invalid diesel engine oil:

A: fuel oil + lubricating oil = black (Oil thinning)

B: water + lubricating oil = Milky (water drops in oil)

5.3 Antifreeze Choice

- >0 °C, recommend to use soft water (such as distilled water, deionized water, drinkable tap water, etc.) ,hardness < 150 PPM, PH = 7 as the cooling water.
- <=0 °C, the cooling system must be filled with antifreeze, the most common antifreeze is ethylene glycol.

Antifreeze freezing point（℃）	Color	Ethylene glycol (CH2OH)2（%）	Water （%）	Density （kg/m³）
-10	Red	26.4	73.6	1.0340
-20	Red	36.4	63.8	1.0506
-30	Blue	45.6	54.4	1.0627
-40	Blue	52.6	47.4	1.0713

5.4 Daily Maintenance

- Open oil-gas tank drain valve to drain water at least every week.
- Check if oil level of oil -gas tank is in the normal position.
- Check air, oil and water pipelines for leaks
- Check if there is looseness in each joint
- Check electrical system and each display instrument are in good condition.
- Check consumables working hour to change according to operation manual.

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The End!
Thank You!

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