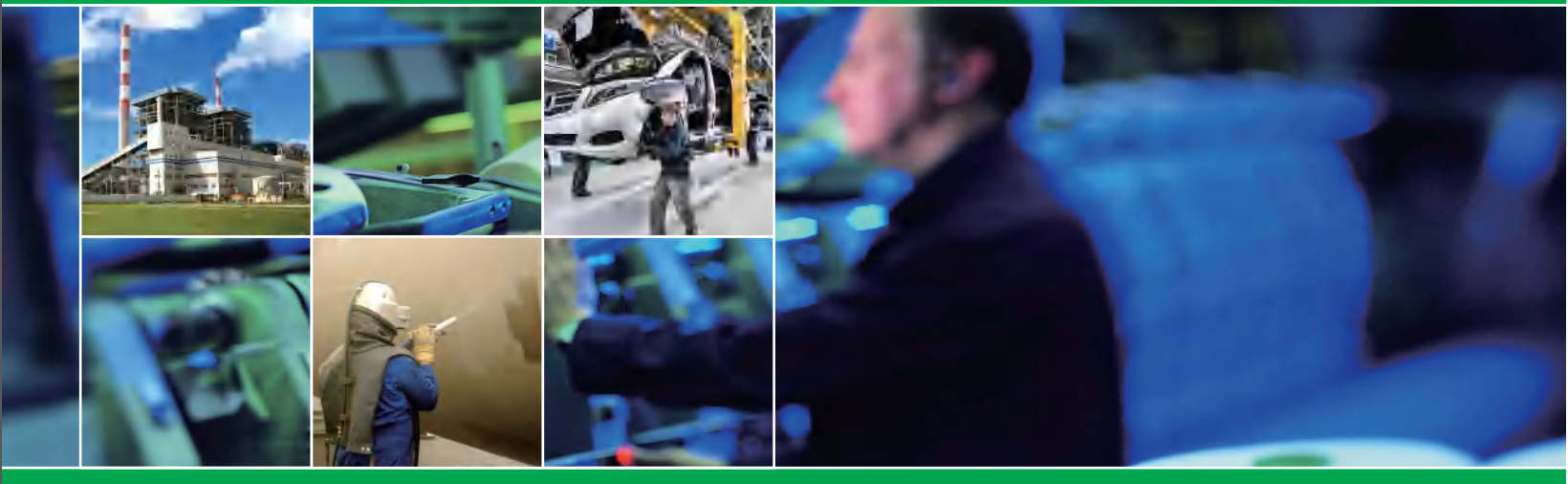
DENAIR®

PM VSD

Rotary Screw Air Compressors

Installed motor power 5.5 - 400 kW/7.5 - 550 hp
Free air delivery from 0.38 to 86.26 m³/min, Pressure 7.0 - 12.5 bar

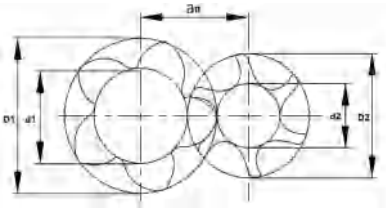


CONTENTS

PM VSD Screw Air Compressor (5.5-400 kW)

Features and advantages

01 Air End Design Analysis



· Profile design patent: ZL201720301123.8
· Design pressure: 5-13 bar
· Volume efficiency: ≥95%
· Transmission ratio: 1:1
· Noise level: lower
· Sweden SKF bearing
· Power consumption: ultra-low
· Rotor diameter and center distance: large
· Max. operating temperature: 110℃ continuous running
· Profile design: the third generation α model asymmetrical 5:6 tooth. Best energy efficiency

02 Control Module

· RS485 communication mode transmission control signal
· Intelligent PID flow adjustment mode
· Closed-loop control, with ideal dynamic characteristics and control accuracy
· Accurately control the torque
· Fast response speed
· Constant pressure control to avoid excess energy loss

03 High Efficiency Permanent Magnetic Motor

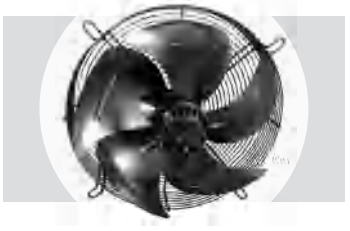
· Cooling method: oil cooling/air coolling
· No bearing design, 100% transmission efficiency
· UH series magnets, can withstand temperature up to 180 °C
· Up to 5 years durability test, 40,000 hours of durable operation without failure
· Appearance design patent: ZL 201330085626.3
· IP65, F class insulation, B grade temperature rise
· PM motor cooling structure design patent :ZL201320216379.0
· Perfectly linear output torque, low speed still retains high torque output

04 Inverter

· High utilization rate, removable panel, switch using, memory function
· Protection: can realize phase loss, phase-to-phase short circuit, short-circuit to ground, over-current, over-voltage, under-voltage, overload, over-heat, motor thermal protection circuit board, reinforced coating, dust and corrosion protection
· Independent cooling design, suspended installation, dust proof, corrosion proof, small heat, powerful overload and unique current limiting technology
· Proprietary and efficient control procedures
· Ultra-wide frequency design, wider control range

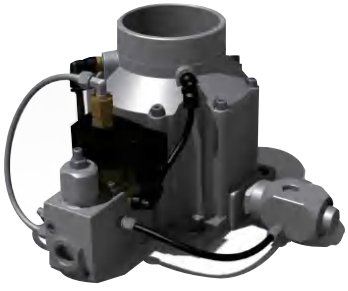
05 Cooling Fan

· Low noise
· Big capacity
· Maintenance free



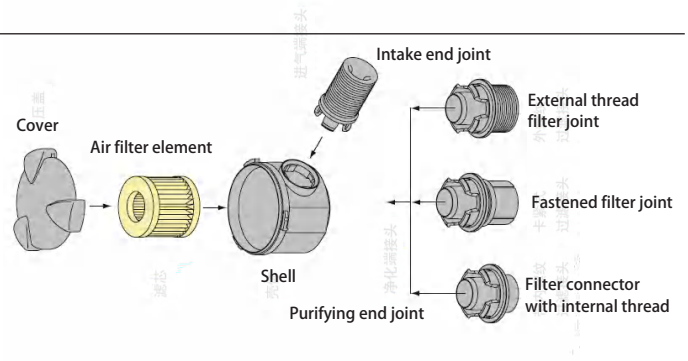
06 Air Inlet Valve

· Petent design: ZL201720513212.9
· High vacuum degree: 700mmHg
· Large suction area
· Low load energy consumption in unloaded operation
· Fast check: prevent unloading and shutdown oil injection
· The solenoid valve adopts the Italy ODE brand
· Valve seal adopts fluoro rubber
· Integrated design, failure and low maintenance rate
· Cast aluminum to avoid rust and temperature change



07 Moulded Air Filter

· Patent: ZL201720513111.1
· Picolino module system
· Less pressure drop
· Multi-stage seal design
· High-tech, good flexibility, good resilience (polyurethane foam)
· Performance well along with the temperature changes
· Precision fit of filter element size and air filter assembly



08 Oil Filter

· Patent: ZL201520816110.5
· Seal material: PTFE
· Working pressure up to 20 bar
· Element material: German resin wood fiber
· Working temperature can withstand 120 °C
· Separation efficiency: 50% impurity separation at 10 μm and 99% impurity separation at 30 μm

09 Oil Gas Separator

· Patent: ZL201720512855.1
· Maximum working pressure can reach 20 bar
· Service life: 4,000Hr
· Maximum withstand pressure drop: 1.2 bar
· Efficient separation, oil content less than 3ppm
· External oil separator design, maintenance time is only take 2min

10 Stainless Steel Pipe

· Maintenance free
· 100 years service life
· Excellent corrosion resistance
· Excellent mechanical properties, superior wear resistance
· Wide range of use, long service life and low overall cost
· Can work safely for a long time at a temperature of -270°C-400°C. The material properties are quite stable.
· 304 stainless steel has a tensile strength of more than 530 N/mm, which is twice stronger of galvanized pipe, 3-4 times stronger of copper pipe, 8-10 times stronger of PPR pipe, and it has good ductility and toughness

11 Oil Gas Tank

· Air line and oil line are separated.
· Excellent separation effect, less than 3ppm of oil content.

Technical Parameters

Model	Working Pressure		Capacity FAD*		Power		IP Grade	Noise Level**	Dimensions (mm)			Weight (kg)	Air Outlet Pipe Diameter	Driving Mode& Cooling Method	EEI
	(barg)	(psig)	(m^3/min)	(cfm)	(kW)	(hp)			(L)	(W)	(H)				
DAV-5	7.0	102	0.45-1.00	16-35	5.5	7.5	IP65	65	900	600	860	165	R1/2	Direct Driven Air Cooling W-Water Cooling	EEI1
	8.0	116	0.44-0.95	16-34											
	10.0	145	0.38-0.76	13-27											
DAV-7	7.0	102	0.43-1.40	15-49	7.5	10	IP65	65	900	600	860	180	R1/2		
	8.0	116	0.41-1.39	14-49											
	10.0	145	0.29-1.00	10-35											
DAV-11	7.0	102	0.60-2.16	21-76	11	15	IP65	65	1050	650	900	205	R3/4		
	8.0	116	0.89-1.94	31-69											
	10.0	145	0.81-1.67	29-59											
	12.5	181	0.43-1.13	15-40											
DAV-15	7.0	102	0.80-2.73	28-96	15	20	IP65	65	1100	650	920	315	R3/4		
	8.0	116	0.74-2.48	26-88											
	10.0	145	1.05-2.24	37-79											
	12.5	181	0.55-1.80	19-64											
DAV-18	7.0	102	1.01-3.38	36-119	18.5	25	IP65	65	1300	800	1050	375	R1		
	8.0	116	0.98-3.27	35-115											
	10.0	145	0.88-2.95	31-104											
	12.5	181	0.74-2.57	26-91											
DAV-22	7.0	102	1.82-3.95	64-139	22	30	IP65	65	1300	800	1050	420	R1		
	8.0	116	1.81-3.84	64-136											
	10.0	145	1.67-3.39	59-120											
	12.5	181	0.88-3.00	31-106											
DAV-30	7.0	102	2.63-5.51	93-195	30	40	IP65	67	1400	900	1200	500	R1-1/2		
	8.0	116	1.56-5.40	55-191											
	10.0	145	1.36-5.30	48-187											
	12.5	181	2.09-3.51	74-124											
DAV-37	7.0	102	2.07-6.74	73-238	37	50	IP65	67	1400	900	1200	550	R1-1/2		
	8.0	116	3.43-6.45	121-228											
	10.0	145	2.95-5.88	104-208											
	12.5	181	1.42-4.78	50-169											
DAV-45	7.0	102	2.51-8.16	89-288	45	60	IP65	67	1500	960	1200	580	R1-1/2		
	8.0	116	2.38-8.00	84-282											
	10.0	145	3.63-6.38	128-225											
	12.5	181	1.62-5.33	57-188											
DAV-55	7.0	102	4.44-10.81	157-382	55	75	IP55	73	1800	1200	1400	1045	Rp2		
	8.0	116	5.10-10.30	180-364											
	10.0	145	4.83-9.44	171-333											
	12.5	181	3.94-7.67	139-271											
DAV-75	7.0	102	5.32-13.25	188-468	75	100	IP55	73	1800	1200	1400	1325	Rp2		
	8.0	116	6.44-13.14	227-464											
	10.0	145	5.71-11.59	202-409											
	12.5	181	3.69-9.44	130-333											
DAV-90(W)	7.0	102	6.30-18.13	223-640	90	120	IP55	73	2435	1795	1715	2100	DN80		
	8.0	116	6.90-17.80	244-628											
	10.0	145	5.23-13.44	185-475											
	12.5	181	5.19-13.32	183-470											

*)FAD in accordance with ISO 1217:2009, Annex C: Absolute intake pressure 1 bar (a), cooling and air intake temperature 20

**) Noise level as per ISO 2151 and the basic standard ISO 9614-2, operation at maximum operating pressure and maximum speed; tolerance: ±3 dB(A)

Specifications are subject to change without notice.

Technical Parameters

Model	Working Pressure		Capacity FAD*		Power		IP Grade	Noise Level**	Dimensions (mm)			Weight (kg)	Air Outlet Pipe Diameter	Driving Mode& Cooling Method	EEI
	(barg)	(psig)	(m^3/min)	(cfm)	(kW)	(hp)			(L)	(W)	(H)				
DAV-110(W)	7.0	102	8.26-21.00	292-742	110	150	IP55	73	2435	1795	1715	2310	DN80	Direct Driven Air Cooling W-Water Cooling	EEI1
	8.0	116	8.08-20.24	286-715											
	10.0	145	6.83-17.15	241-606											
	12.5	181	5.45-14.82	193-523											
DAV-132(W)	7.0	102	8.63-24.65	305-870	132	175	IP55	73	2435	1795	1715	2415	DN80		
	8.0	116	8.61-24.60	304-869											
	10.0	145	7.54-21.54	266-761											
	12.5	181	6.10-17.44	216-616											
DAV-160(W)	7.0	102	10.75-30.70	380-1084	160	215	IP55	73	3110	1890	2150	4095	DN80		
	8.0	116	10.47-29.91	370-1056											
	10.0	145	8.30-23.72	293-838											
	12.5	181	7.18-20.53	254-725											
DAV-185(W)	7.0	102	12.36-35.31	436-1247	185	250	IP55	73	3110	1890	2150	4200	DN80		
	8.0	116	12.18-34.80	430-1229											
	10.0	145	10.37-29.62	366-1046											
	12.5	181	8.46-24.16	299-853											
DAV-200(W)	7.0	102	13.78-39.37	487-1390	200	270	IP55	78	3310	2090	2400	4515	DN100		
	8.0	116	13.22-37.76	467-1333											
	10.0	145	10.73-30.66	379-1083											
	12.5	181	9.93-28.36	351-1001											
DAV-220(W)	7.0	102	17.47-44.99	617-1589	220	300	IP55	78	3310	2090	2400	4725	DN100		
	8.0	116	16.04-42.75	566-1510											
	10.0	145	13.42-34.56	474-1220											
	12.5	181	11.87-29.99	419-1059											
DAV-250(W)	7.0	102	18.48-47.60	653-1681	250	350	IP55	78	3310	2090	2400	4935	DN100		
	8.0	116	18.44-47.49	651-1677											
	10.0	145	16.79-43.24	593-1527											
	12.5	181	12.35-31.80	436-1123											
DAV-280(W)	7.0	102	18.94-54.12	669-1911	280	375	IP55	78	3730	2380	2550	6825	DN125		
	8.0	116	18.49-52.82	653-1865											
	10.0	145	16.45-47.01	581-1660											
	12.5	181	12.20-34.86	431-1231											
DAV-315(W)	7.0	102	20.34-58.12	718-2052	315	425	IP55	80	3730	2380	2550	7140	DN125		
	8.0	116	19.86-56.73	701-2003											
	10.0	145	17.77-50.78	604-1793											
	12.5	181	15.81-45.18	558-1595											
DAV-355W	7.0	102	22.52-64.35	795-2272	355	475	IP55	80	3730	2380	2550	8400	DN125	Direct Driven W-Water Cooling	
	8.0	116	22.26-63.59	790-2245											
	10.0	145	19.34-55.26	683-1951											
	12.5	181	17.03-47.97	601-1694											
DAV-400W	7.0	102	26.15-74.71	923-2638	400	550	IP55	80	4500	2500	2750	9240	DN125		
	8.0	116	24.68-70.52	871-2490											
	10.0	145	22.00-62.85	777-2219											
	12.5	181	17.73-50.65	626-1788											

*)FAD in accordance with ISO 1217:2009, Annex C: Absolute intake pressure 1 bar (a), cooling and air intake temperature 20

**) Noise level as per ISO 2151 and the basic standard ISO 9614-2, operation at maximum operating pressure and maximum speed; tolerance: ±3 dB(A)

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