

Oil-injected



Rotary Screw Air Compressors SIGMA Series

PM VSD Nelin Series

DS-PM VSD OPTIMA Series

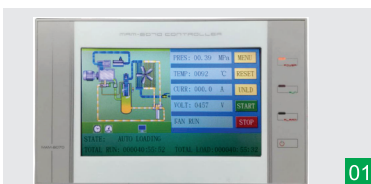


Farafan Hava Co



OIL-INJECTED ROTARY SCREW AIR COMPRESSOR(FIXED SPEED)

Features and advantages



01

Smart Controller

- Increased reliability: durable keyboard, user-friendly, multilingual user interface.
- Improved ease of use: intuitive navigation system with main operation conditions include warning indications, maintenance scheduling etc.



02

Stainless Steel Oil Pipe And Air Pipe

- High temperature resistant ($400^{\circ}\text{C}=752^{\circ}\text{F}$) and low temperature resistant ($-270^{\circ}\text{C}= -518^{\circ}\text{F}$), high pressure resistant.
- Ultra-long life(80 years), completely leak free and maintenance free.



03

Intelligent Control And Protection

- safe and reliable. Reasonable, simple and clear wiring,
- easy for maintenance.
- Good protection function ensures the stable running of the compressor unit.



04

Premium Efficiency Drive Motor

- Premium efficiency Totally Enclosed Fan Cooled (TEFC) IP54/IP55 motor (Class F insulation) protects against dust and chemicals etc.
- Long-term stable operation even in harsh environments up to 55°C (131°F)



05

State-of-the-art Screw Element

- Original GHH air end.
- Advanced SAP profile design
- The material of the rotors is American specialty steel.



06

Efficient Radiator

High quality aluminum fins and copper coil materials with good thermal conductivity ensure the perfect cooling efficiency.

OIL-INJECTED ROTARY SCREW AIR COMPRESSOR(VSD)

Features and advantages



01

Variable Speed Drive

- Different variable speed drive brands available, such as INVT, ABB, Part Drive etc.
- VSD: variable volume, controlled costs: there is no unnecessary power generated, the DENAIR DVA models can reduce energy costs by 35% or more.

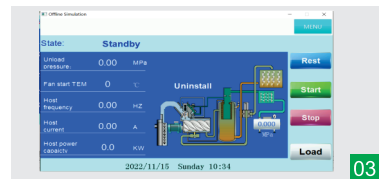
Life cycle costs of the compressor can be reduced by an average of 22%.



02

State-of-the-art Screw Element

- Original DENAIR air end.
- Advanced SAP profile design
- The material of the rotors is American specialty steel.
- Superior Sweden SKF element bearings.



03

Smart Controller

- Increased reliability: durable keyboard, user-friendly, multilingual user interface.
- Improved ease of use: intuitive navigation system with main operation conditions include warning indications, maintenance scheduling etc.



04

Energy-saving 1:1 Direct Driven Design

KTR brand maintenance-free coupling makes the motor drive the air end without transmission loss.



05

Efficient Separation System

- Reduction of pressure drops and energy costs.
- Low oil consumption ensures minimal maintenance costs and long compressor lifetime.
- Quality air with low oil content:
 - three step air-oil separation (centrifuge, gravity, filter)
 - oil content: less than 3 ppm by weight
 - hinged cover for easy separator element change



06

Air Inlet Valve

- Large suction area
- Valve seal adopts fluoro rubber
- Integrated design, failure and low maintenance rate
- Cast aluminum to avoid rust and temperature change

Technical parameters

SIGMA Series

Model	Maximum Working Pressure		Capacity FAD*								Installed Motor Power		Driving Model & Cooling Method	Noise level**	Dimensions(mm)			Weight	Air outlet pipe diameter
			50Hz				60Hz												
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	[dB(A)]	L		W	H	kg			
	bar(g)	psig	m³/min	cfm	m³/min	cfm	kW	hp											
SIGMA-5.5	7.5	109	0.51	0.85	18	30	0.48	0.80	17	28	5.5	7.5	Belt Driven	62	900	600	860	315	R1/2"
	8.5	123	0.48	0.80	17	28	0.47	0.78	17	28	5.5	7.5		62	900	600	860	315	R1/2"
SIGMA-7.5	7.5	109	0.67	1.12	24	40	0.65	1.09	24	39	7.5	10		62	900	600	860	350	R1/2"
	8.5	123	0.66	1.10	23	39	0.64	1.07	23	38	7.5	10		62	900	600	860	350	R1/2"
	10.5	152	0.60	1.00	21	35	0.55	0.91	19	32	7.5	10		62	900	600	860	350	R1/2"
	13.0	189	0.48	0.80	17	28	0.43	0.72	16	26	7.5	10		62	900	600	860	350	R1/2"
SIGMA -11	7.5	109	1.18	1.97	42	70	1.00	1.66	35	59	11	15		62	1050	650	900	410	R3/4"
	8.5	123	1.06	1.76	37	62	0.98	1.64	34	58	11	15		62	1050	650	900	410	R3/4"
	10.5	152	0.87	1.45	31	51	0.87	1.45	31	51	11	15		62	1050	650	900	410	R3/4"
	13.0	189	0.68	1.13	24	40	0.67	1.12	24	40	11	15		62	1050	650	900	410	R3/4"
SIGMA-15	7.5	109	1.52	2.54	54	90	1.52	2.53	53	89	15	20	Direct Driven Air Cooling	64	1100	650	920	455	R3/4"
	8.5	123	1.50	2.51	53	88	1.50	2.50	52	88	15	20		64	1100	650	920	455	R3/4"
	10.5	152	1.18	1.97	42	70	1.12	1.86	40	66	15	20		64	1100	650	920	455	R3/4"
	13.0	189	1.14	1.91	40	67	1.10	1.83	39	65	15	20		64	1100	650	920	455	R3/4"
SIGMA-18	7.5	109	1.93	3.21	68	113	2.18	3.63	77	128	18.5	25		64	1300	800	1050	485	R1"
	8.5	123	1.82	3.03	64	107	2.12	3.54	75	125	18.5	25		64	1300	800	1050	485	R1"
	10.5	152	1.74	2.90	61	102	1.42	2.37	50	84	18.5	25		64	1300	800	1050	485	R1"
	13.0	189	1.14	1.91	40	67	1.40	2.34	49	83	18.5	25		64	1100	650	920	485	R1"
SIGMA-22	7.5	109	2.14	3.57	76	126	2.22	3.70	79	131	22	30		66	1300	800	1050	510	R1"
	8.5	123	2.13	3.55	75	125	2.17	3.61	77	128	22	30		66	1300	800	1050	510	R1"
	10.5	152	1.80	3.00	64	106	2.11	3.52	74	124	22	30		66	1300	800	1050	510	R1"
	13.0	189	1.78	2.97	63	105	1.43	2.38	50	84	22	30		66	1300	800	1050	510	R1"
SIGMA-30	7.5	109	3.17	5.28	112	187	2.69	4.49	95	159	30	40		66	1400	900	1200	685	R1-1/2"
	8.5	123	3.16	5.26	112	186	2.68	4.48	94	158	30	40		66	1400	900	1200	685	R1-1/2"
	10.5	152	3.13	5.21	110	184	2.67	4.47	94	158	30	40		66	1400	900	1200	685	R1-1/2"
	13.0	189	2.07	3.45	73	122	2.15	3.58	76	126	30	40		66	1400	900	1200	685	R1-1/2"
SIGMA-37	7.5	109	3.92	6.54	138	231	3.80	6.33	134	224	37	50		66	1400	900	1200	700	R1-1/2"
	8.5	123	3.91	6.52	138	230	3.78	6.30	133	222	37	50		66	1400	900	1200	700	R1-1/2"
	10.5	152	3.21	5.35	113	189	3.60	6.00	127	212	37	50		66	1400	900	1200	700	R1-1/2"
	13.0	189	3.09	5.16	109	182	2.66	4.43	94	156	37	50		66	1400	900	1200	700	R1-1/2"
SIGMA-45	7.5	109	4.60	7.67	163	271	4.67	7.79	165	275	45	60		69	1500	960	1200	730	R1-1/2"
	8.5	123	4.57	7.62	161	269	4.66	7.76	164	274	45	60		69	1500	960	1200	730	R1-1/2"
	10.5	152	3.88	6.46	137	228	3.74	6.24	132	220	45	60		69	1500	960	1200	730	R1-1/2"
	13.0	189	3.85	6.41	136	226	3.12	5.20	110	184	45	60		69	1500	960	1200	730	R1-1/2"
SIGMA-55	7.5	109	6.30	9.50	222	371	5.48	9.14	194	323	55	75		69	1800	1200	1400	1350	R2"
	8.5	123	6.00	9.00	212	353	5.44	9.06	192	320	55	75		69	1800	1200	1400	1350	R2"
	10.5	152	5.07	8.45	179	298	4.64	7.74	164	273	55	75		69	1800	1200	1400	1350	R2"
	13.0	189	4.44	7.40	157	261	3.78	6.30	133	222	55	75		69	1800	1200	1400	1350	R2"
SIGMA-75	7.5	109	8.53	14.21	301	502	7.03	11.72	248	414	75	100		69	1800	1200	1400	1400	R2"
	8.5	123	7.80	13.00	275	459	6.98	11.63	247	411	75	100		69	1800	1200	1400	1400	R2"
	10.5	152	6.32	10.54	223	372	6.86	11.43	242	404	75	100		69	1800	1200	1400	1400	R2"
	13.0	189	5.54	9.23	196	326	5.25	8.75	185	309	75	100		69	1800	1200	1400	1400	R2"

*)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

SIGMA Series

Model	Maximum Working Pressure		Capacity FAD*								Installed Motor Power		Driving Model & Cooling Method	Noise level**	Dimensions(mm)			Weight	Air outlet pipe diameter
			50Hz				60Hz												
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	kW	hp	[dB(A)]	L		W	H	kg			
	bar(g)	psig	m ³ /min	cfm	m ³ /min	cfm	m ³ /min	cfm	kW	hp									
SIGMA-90	7.5	109	10.36	17.27	366	610	10.21	17.01	361	601	90	120	Direct Driven Air Cooling W-Water Cooling	72	2435	1795	1715	2100	DN80
	8.5	123	10.16	16.93	359	598	10.09	16.82	356	594	90	120		72	2435	1795	1715	2100	DN80
	10.5	152	7.33	12.22	259	431	8.92	14.87	315	525	90	120		72	2435	1795	1715	2100	DN80
	13.0	189	7.27	12.11	257	428	6.76	11.27	239	398	90	120		72	2435	1795	1715	2100	DN80
SIGMA-110	7.5	109	12.03	20.05	425	708	11.46	19.10	404	674	110	150		75	2435	1795	1715	2310	DN80
	8.5	123	12.00	20.00	424	706	11.44	19.06	403	673	110	150		75	2435	1795	1715	2310	DN80
	10.5	152	9.80	16.33	346	577	10.21	17.01	361	601	110	150		75	2435	1795	1715	2310	DN80
	13.0	189	8.47	14.11	299	498	8.81	14.68	311	518	110	150		75	2435	1795	1715	2310	DN80
SIGMA-132	7.5	109	14.46	24.10	511	851	14.62	24.37	517	861	132	175		75	2435	1795	1715	2415	DN80
	8.5	123	14.40	24.00	508	847	14.54	24.23	514	856	132	175		75	2435	1795	1715	2415	DN80
	10.5	152	12.30	20.51	434	724	11.37	18.95	401	669	132	175		75	2435	1795	1715	2415	DN80
	13.0	189	9.97	16.61	352	587	10.09	16.82	356	594	132	175		75	2435	1795	1715	2415	DN80
SIGMA-160	7.5	109	17.18	28.63	607	1011	16.74	27.90	591	985	160	215		75	3110	1890	2150	4095	DN80
	8.5	123	17.09	28.49	604	1006	16.66	27.76	588	980	160	215		75	3110	1890	2150	4095	DN80
	10.5	152	13.96	23.27	493	822	14.38	23.97	508	846	160	215		75	3110	1890	2150	4095	DN80
	13.0	189	12.08	20.14	427	711	11.29	18.82	398	664	160	215		75	3110	1890	2150	4095	DN80
SIGMA-185	7.5	109	20.18	33.63	712	1187	18.27	30.45	645	1075	185	250		75	3110	1890	2150	4200	DN80
	8.5	123	19.97	33.28	705	1175	18.04	30.06	637	1061	185	250		75	3110	1890	2150	4200	DN80
	10.5	152	16.93	28.21	598	996	16.52	27.54	583	972	185	250		75	3110	1890	2150	4200	DN80
	13.0	189	13.81	23.01	487	812	14.25	23.75	503	839	185	250		75	3110	1890	2150	4200	DN80
SIGMA-200	7.5	109	22.77	37.95	804	1340	18.62	31.03	658	1096	200	270		78	3310	2090	2400	4515	DN100
	8.5	123	22.66	37.76	800	1333	18.21	30.35	643	1071	200	270		78	3310	2090	2400	4515	DN100
	10.5	152	18.05	30.08	637	1062	17.81	29.69	629	1048	200	270		78	3310	2090	2400	4515	DN100
	13.0	189	16.69	27.82	589	982	16.18	26.97	571	952	200	270		78	3310	2090	2400	4515	DN100
SIGMA-220	7.5	109	25.71	42.85	908	1513	22.33	37.22	788	1314	220	300		78	3310	2090	2400	4725	DN100
	8.5	123	25.65	42.75	906	1510	22.30	37.17	787	1312	220	300		78	3310	2090	2400	4725	DN100
	10.5	152	19.75	32.91	697	1162	19.95	33.25	704	1174	220	300		78	3310	2090	2400	4725	DN100
	13.0	189	17.84	29.73	630	1050	16.24	27.07	574	956	220	300		78	3310	2090	2400	4725	DN100
SIGMA-250	7.5	109	27.46	45.77	970	1616	25.72	42.87	908	1514	250	350		78	3310	2090	2400	4935	DN100
	8.5	123	27.40	45.67	968	1613	24.78	41.30	875	1458	250	350		78	3310	2090	2400	4935	DN100
	10.5	152	25.58	42.64	903	1506	22.22	37.04	785	1308	250	350		78	3310	2090	2400	4935	DN100
	13.0	189	18.52	30.87	654	1090	19.89	33.15	702	1170	250	350		78	3310	2090	2400	4935	DN100
SIGMA-280	7.5	109	30.92	51.54	1092	1820	28.30	47.16	999	1665	280	375		78	3730	2250	2520	6825	DN125
	8.5	123	30.77	51.28	1086	1811	27.38	45.64	967	1612	280	375		78	3730	2250	2520	6825	DN125
	10.5	152	27.38	45.64	967	1612	25.54	42.56	902	1503	280	375		78	3730	2250	2520	6825	DN125
	13.0	189	20.69	34.49	731	1218	22.17	36.95	783	1305	280	375		78	3730	2250	2520	6825	DN125
SIGMA-315	7.5	109	33.86	56.43	1196	1993	30.53	50.88	1078	1797	315	425		80	3730	2250	2520	7140	DN125
	8.5	123	33.69	56.15	1190	1983	30.50	50.83	1077	1795	315	425		80	3730	2250	2520	7140	DN125
	10.5	152	30.47	50.78	1076	1793	27.76	46.27	981	1634	315	425		80	3730	2250	2520	7140	DN125
	13.0	189	27.11	45.18	957	1595	24.19	40.32	854	1424	315	425		80	3730	2250	2520	7140	DN125
SIGMA-355	7.5	109	38.75	64.59	1369	2281	34.87	58.12	1231	2052	355	475		80	3730	2250	2520	8000	DN125
	8.5	123	36.72	61.20	1297	2161	33.92	56.54	1198	1997	355	475		80	3730	2250	2520	8000	DN125
	10.5	152	33.01	55.02	1166	1943	30.94	51.57	1093	1821	355	475		80	3730	2250	2520	8000	DN125
	13.0	189	27.13	45.22	958	1597	27.21	45.35	961	1601	355	475		80	3730	2250	2520	8000	DN125
SIGMA-400	7.5	109	44.69	74.49	1578	2630	37.03	61.72	1307	2179	400	550		80	4500	2500	2750	8800	DN125
	8.5	123	42.31	70.52	1494	2490	35.83	59.72	1265	2109	400	550		80	4500	2500	2750	8800	DN125
	10.5	152	36.50	60.83	1289	2148	33.91	56.52	1198	1996	400	550		80	4500	2500	2750	8800	DN125
	13.0	189	29.50	49.17	1042	1736	30.81	51.35	1088	1813	400	550		80	4500	2500	2750	8800	DN125

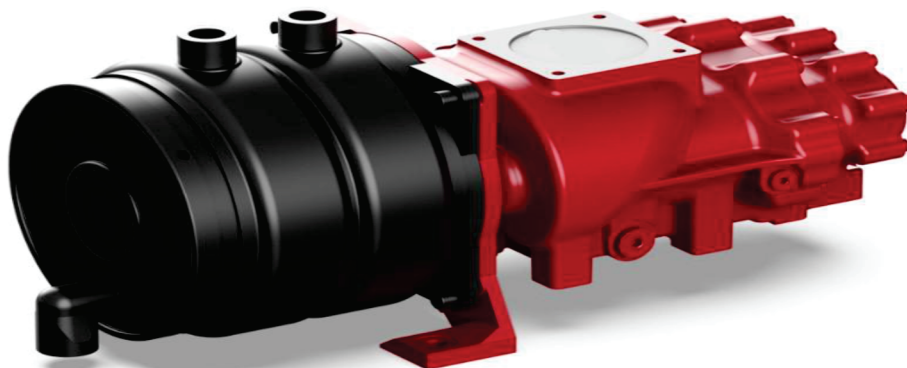
*)FAD in accordance with ISO 1217:2009, Annex C: Absolute intake pressure 1 bar (a), cooling and air intake temperature 20℃

**) 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.

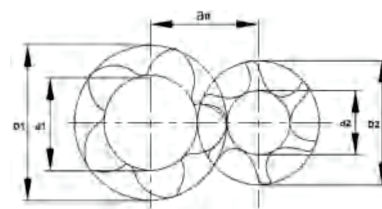
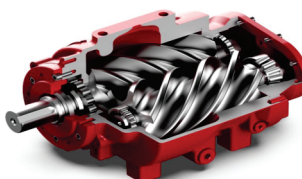
PM VSD Screw Air Compressor (5.5-75 kW) Nelin Series

Features and advantages



01 Air End Design Analysis

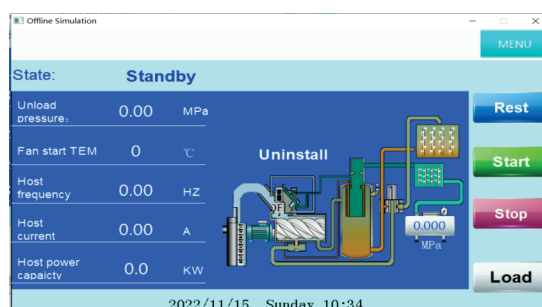
- 4 & 8 Bearing Air end Technology
- Design pressure: 5-13 bar
- Volume efficiency: $\geq 95\%$
- Transmission ratio: 1:1
- Noise level: lower
- Power consumption: ultra-low
- Rotor diameter and center distance: large
- Max. operating temperature: 110°C continuous running
- Profile design: the third generation α model asymmetrical 5:6 tooth. Best energy efficiency



GHH Technology

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

- High Efficiency Motor IE4 & IE5
- Cooling method: oil cooling/air cooling
- 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
- IP65, F class insulation, B grade temperature rise
- PM motor cooling structure design
- Perfectly linear output torque, low speed still retains high torque output



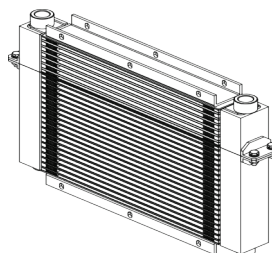
04 Inverter

- 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



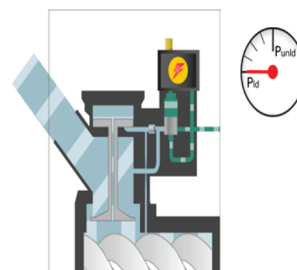
05 Cooling Fan

- Low noise
- Big capacity
- Maintenance free



06 Air Inlet Valve

- Valve seal adopts fluoro rubber
- Integrated design, failure and low maintenance rate
- Cast aluminum to avoid rust and temperature change



07 Moulded Air Filter

- 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

- 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

- 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.
- 3 step separation guaranty excellent separation
- Reduction of pressure drops and energy costs.
- Low oil consumption ensures minimal maintenance costs and long compressor lifetime.
- Quality air with low oil content:
 - three step air-oil separation(centrifuge, gravity,
- oil content: less than 3 ppm by weight
- hinged cover for easy separator element change

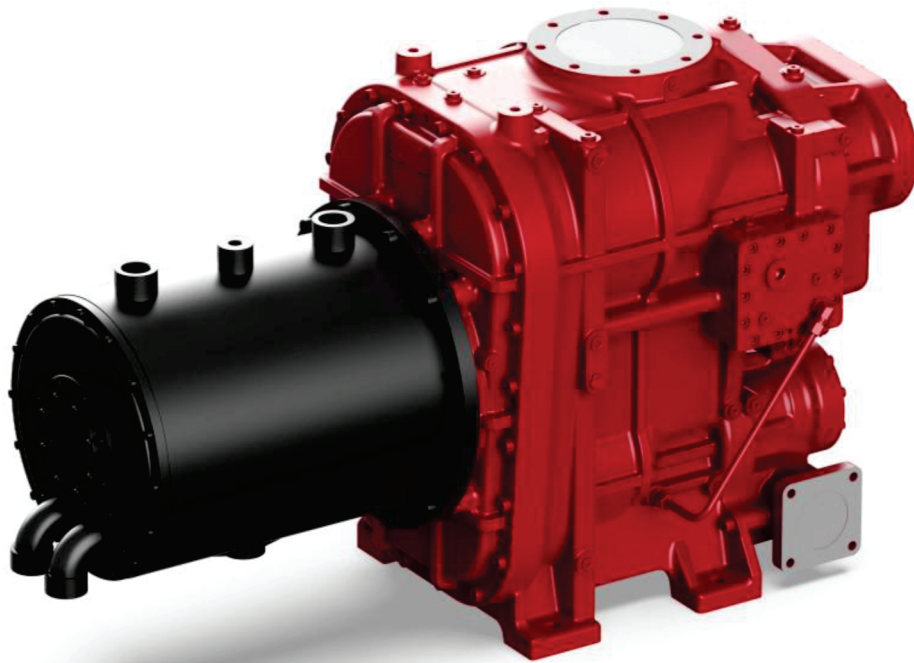


Model	Working Pressure		Capacity FAD*		Power		IP Grade ***	Noise Level**	Dimensions (mm)			Weight (kg)	Air Outlet Pipe Diameter	Driving Mode& Cooling Method	EEI
	(barg)	(psig)	(m³ /min)	(cfm)	(kW)	(hp)			(L)	(W)	(H)				
PM-5.5	7.0	102	0.45-1.00	16-35	5.5	7.5	IP65	65	900	600	860	165	R1/2	Direct Driven A-Air Cooling W-Water Cooling	EEI1
	8.0	116	0.44-0.95	16-34											
	10.0	145	0.38-0.76	13-27											
PM-7.5	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											
PM-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											
PM-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											
PM-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											
PM-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											
PM-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											
PM-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											
PM-45	7.0	102	2.51-7.16	89-288	45	60	IP65	67	1500	960	1200	580	R1-1/2		
	8.0	116	2.38-7.00	84-282											
	10.0	145	3.63-6.38	128-225											
	12.5	181	1.62-5.33	57-188											
PM-55	7.0	102	4.44-9.81	157-382	55	75	IP55	73	1800	1200	1400	1045	Rp2		
	8.0	116	5.10-9.30	180-364											
	10.0	145	4.83-8.44	171-333											
	12.5	181	3.94-7.67	139-271											
PM-75	7.0	102	5.32-12.25	188-468	75	100	IP55	73	1800	1200	1400	1325	Rp2		
	8.0	116	6.44-12.14	227-464											
	10.0	145	5.71-11.59	202-409											
	12.5	181	3.69-9.44	130-333											

*)FAD in accordance with ISO 1217:2009, Annex C: Absolute intake pressure 1 bar (a), cooling and air intake temperature 20 °C
 **) 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)
 ***) Air cooled type motors IP23 and oil cooled IP 55 & IP 64
Specifications are subject to change without notice.

DS-VSD Two-stage Screw Air Compressor (30-400 KW) Permanent Magnet & Asynchronous Electro Motor

Features and advantages

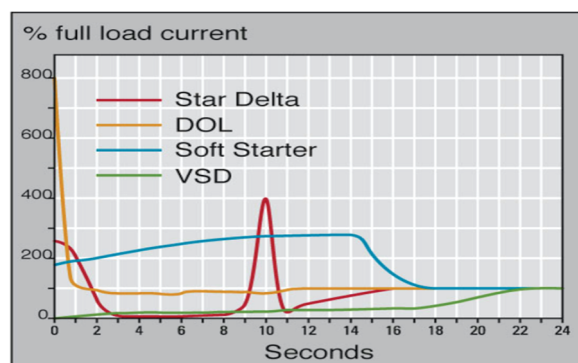


GHH Technology

01 Features Of Permanent Magnet Variable Frequency Air Compressor

- Ultra-low temperature rise design, which allows the compressor running at ultra-low frequency for a long time.
- Closed-loop vector control system for faster control and more precise speed control.
- The compressor unit can still operate efficiently when the frequency is reduced by more than 50%.
- The pressure is stable and the pressure fluctuation is accurately controlled within 0.1 bar.

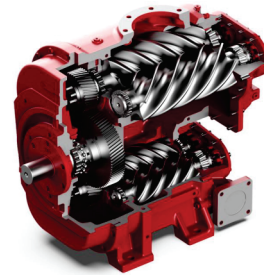
The figure shows a comparison of several starting methods. It can be seen that the frequency converter is slowly accelerated to start, the starting is more stable, and the current peak is completely avoided.



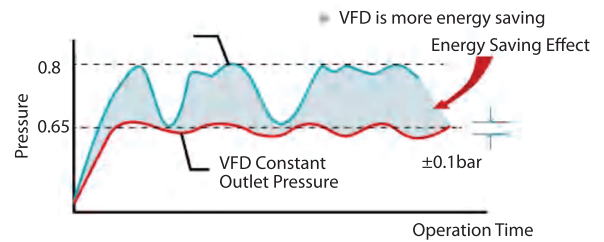
02 Air End

Reducing Rpm to 1500 and increasing life time of bearing ensure Performance and Reducing maintenance cost

- The rotor adopts the world's leading high-efficiency profile and is made of 1141 special steel, which has good hardness and high wear resistance.
- Two-stage independent compression, low-speed design, lower overall noise.
- The low compression ratio at each stage ensures smaller leakage and higher volumetric efficiency.
- Oil mist spray cooling is used between stages, and the compression process is close to isothermal compression to improve efficiency.
- The rotor and bearings are under little stress, and the long life of screw element is guaranteed to continue running.
- Under the set frequency conversion pressure, the unit will automatically adjust to keep the output pressure within ± 0.1 bar, reducing unnecessary waste (the power consumption increases by 7% for every 1 bar of pressure increase)

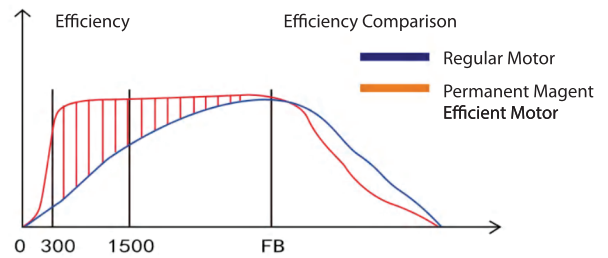


15% More efficiency



03 Advantages of Permanent Magnet Motors Compared to General Asynchronous Motors

- High efficiency: Eliminates excitation system losses and improves efficiency.
- It is still efficient under low load conditions: the energy efficiency of a permanent magnet motor is more than 9% higher than that of a conventional asynchronous motor at full load operation, and its energy efficiency remains unchanged as the speed decreases.
- Large overdrive torque: The ratio of the maximum starting torque of the permanent magnet synchronous motor to the rated torque can be more than 3 times, while the general asynchronous motor is only 1.6 times.
- The control is more stable: the corresponding time of the permanent magnet motor is < 50 ms, and the gas production can be adjusted in a large range in an instant, so that the gas pressure is truly stable.



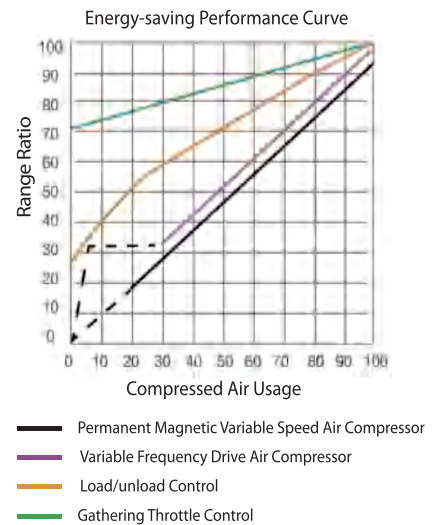
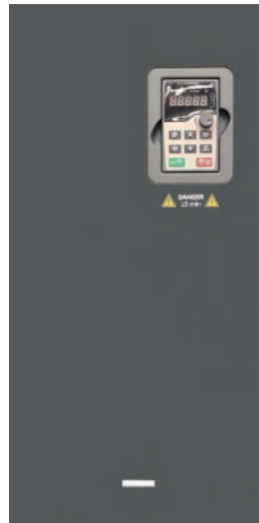
04 High Efficiency Permanent Magnetic Motor

- High Efficiency Motor IE4 & IE5
- Cooling method: oil cooling/air cooling
- 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
- IP65, F class insulation, B grade temperature rise
- PM motor cooling structure design
- Perfectly linear output torque, low speed still retains high torque output



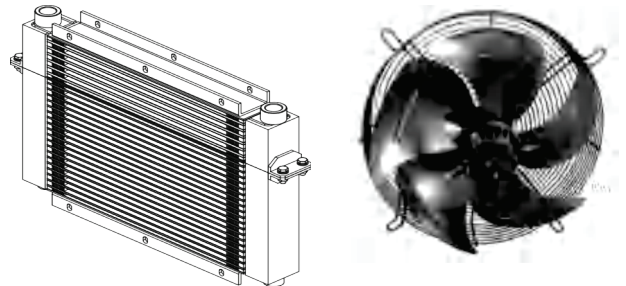
05 More Advanced Technology. More Powerful Inverter

- The standard equipment is equipped with a high-frequency reactor to reduce the high frequency generated by the inverter.
- The soft start of the inverter reduces the peak current at startup, resulting in a smooth start and greatly reduced power costs.
- Forced cooling of the inverter to prevent high temperature shutdown in Summer.
- Standard equipment dust screen, circuit board surface coating treatment, high efficiency and durability against dirt, dust, moisture.
- The special design of the heat dissipation area of the inverter ensures stable operation of the inverter under high temperature environment.
- No idling occurs under any load conditions to achieve the desired power saving effect.
- Quickly track changes in pressure, control pressure fluctuations within ± 0.1 bar, and optimize the use of the power to accurately provide the right amount of air as needed.



06 Cooling Fan

- Low noise
- Big capacity
- Maintenance free



07 Oil Gas Tank

- Air line and oil line are separated.
- Excellent separation effect, less than 3ppm of oil content.
- 3 step separation guaranty excellent separation
- Reduction of pressure drops and energy costs.
Low oil consumption ensures minimal maintenance costs and long compressor lifetime.
- Quality air with low oil content:
three step air-oil separation(centrifuge, gravity,
oil content: less than 3 ppm by weight
hinged cover for easy separator element change



08 Oil Filter

- 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

- 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 Air Filter Assemblage

- The imported brand is used to reliably remove dirt from the air. The dust particles in the air are controlled below 0.3 microns and the filtration accuracy is as high as 99.99%.



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)	(m³ /min)	(cfm)	(kW)	(hp)			(L)	(W)	(H)				
DS-30	7.0	102	2.55-5.37	90-225	30	40	IP55	75	1650	1050	1300	945	R2	Direct Driven Air Cooling W-Water Cooling	EEI1
	8.0	116	2.54-5.34	90-224											
DS-37	7.0	102	3.26-6.14	115-288	37	50	IP55	75	1650	1050	1300	1029	R2		
	8.0	116	3.20-6.00	113-283											
DS-45	7.0	102	4.00-7.01	141-354	45	60	IP55	75	1650	1050	1300	1100	R2		
	8.0	116	4.00-7.00	141-353											
DS-55	7.0	102	5.16-10.90	182-456	55	75	IP55	80	2350	1500	1600	1995	DN50		
	8.0	116	5.13-10.83	181-453											
	10.0	145	3.88-9.00	137-353											
	12.5	181	3.46-9.64	122-305											
DS-75	7.0	102	6.83-13.07	241-603	75	100	IP55	80	2350	1500	1600	2100	DN50		
	8.0	116	6.80-13.00	240-601											
	10.0	145	6.00-12.50	212-530											
	12.5	181	4.89-11.22	173-432											
DS-90	7.0	102	8.36-16.90	295-739	90	120	IP55	80	2705	1775	1915	2625	DN80		
	8.0	116	8.02-16.05	283-709											
	10.0	145	6.58-15.44	233-581											
	12.5	181	5.91-14.77	209-522											
DS-110	7.0	102	9.92-18.80	351-876	110	150	IP55	80	2705	1775	1915	2730	DN80		
	8.0	116	9.62-18.04	340-850											
	10.0	145	7.65-17.13	270-676											
	12.5	181	6.48-16.19	229-572											
DS-132	7.0	102	11.45-25.63	405-1007	132	175	IP55	80	2705	1775	1915	3150	DN80		
	8.0	116	11.40-25.49	403-1006											
	10.0	145	9.20-23.01	325-813											
	12.5	181	8.64-21.59	305-763											
DS-160	7.0	102	14.06-31.14	497-1242	160	215	IP55	80	3110	1890	2150	4515	DN100		
	8.0	116	14.00-30.64	495-1224											
	10.0	145	12.72-27.79	450-1123											
	12.5	181	10.53-26.33	372-931											
DS-185	7.0	102	16.07-31.17	568-1420	185	250	IP55	80	3110	1890	2150	4725	DN100		
	8.0	116	16.00-31.00	565-1414											
	10.0	145	13.78-30.45	487-1217											
	12.5	181	11.56-29.63	409-1046											
DS-200	7.0	102	17.78-34.45	628-1571	200	270	IP55	82	3310	2090	2400	5775	DN100		
	8.0	116	17.61-34.02	622-1556											
	10.0	145	15.53-33.83	549-1372											
	12.5	181	13.32-33.31	471-1177											

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

OPTIMA Series

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)	(m³/min)	(cfm)	(kW)	(hp)			(L)	(W)	(H)								
DS-220	7.0	102	19.56-40.90	691-1728	220	300	IP55	82	3310	2090	2400	5880	DN100	Direct Driven Air Cooling W-Water Cooling	EEI1				
	8.0	116	19.51-40.77	689-1724															
	10.0	145	17.35-40.37	613-1533															
	12.5	181	15.23-38.08	538-1346															
DS-250	7.0	102	21.98-42.94	777-1942	250	350	IP55	82	3310	2090	2400	5985	DN100			Direct Driven W-Water Cooling	EEI1		
	8.0	116	21.93-42.83	775-1938															
	10.0	145	19.38-41.45	685-1712															
	12.5	181	17.18-40.95	607-1518															
DS-280	7.0	102	24.10-50.24	852-2129	280	375	IP55	82	3730	2380	2550	7350	DN125	Direct Driven W-Water Cooling				EEI1	
	8.0	116	24.05-50.13	850-2125															
	10.0	145	21.33-47.32	754-1884															
	12.5	181	19.06-45.65	674-1684															
DS-315	7.0	102	26.43-55.08	934-2335	315	425	IP55	85	3730	2380	2550	7455	DN125			Direct Driven W-Water Cooling			EEI1
	8.0	116	26.39-55.97	933-2331															
	10.0	145	23.32-51.29	824-2060															
	12.5	181	20.94-49.34	740-1850															
DS-355	7.0	102	29.90-59.00	1056-2719	355	475	IP55	85	3730	2380	2550	7875	DN125	Direct Driven W-Water Cooling	EEI1				
	8.0	116	29.25-59.32	1033-2660															
	10.0	145	24.97-58.29	882-2270															
	12.5	181	22.33-57.50	788-2030															
DS-400	7.0	102	35.50-80.85	1255-3137	400	550	IP55	85	4500	2500	2750	9240	DN125			Direct Driven W-Water Cooling	EEI1		
	8.0	116	35.00-80.05	1237-3074															
	10.0	145	30.00-70.80	1060-2641															
	12.5	181	24.00-66.94	848-2364															

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





Farafan Hava Energy Saving Technology company .

No. 24 Etemadian Alley - sadeghiye Sq-Tehran- Iran

Factory : No 14 & 15 Sanat Alley Shahriar Tehran -Iran

Head Quarter

Tel : +98 21 44089855

Fax: +98 21 44050523

Mobile: 0098 9193767428

Factory

Tel :+98 2165767724

Fax:+98 2165766028

info@farafanhava.com
www.farafanhava.com

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