







# **Energy Efficient Screw Air Compressor**

- Advanced screw airend
- Intelligent microprocessor based electronic controller
- Three stage air oil separator

Mute

- Low specific power consumption
- Less noise level and ease of maintenance
- Very Compact

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Mute & Jumbo Series

Compressed air is a type of clean and environmental friendly energy. Frank's goal is to make use of this energy easier by proposing solution and systems that are the result of a careful analysis of the needs of all potential users, distributors and their satisfaction.



#### Micro Computer Control System

Intelligent micro computer control system. The LCD can show present temperature, working pressure, accumulative working time, malfunction, etc. Maintenance schedule through ON Line.



### **Advanced Screw Airend**

Advanced rotary screw technology, equipped with high efficiency rotary screw airend powered by efficient electric motor.



### Loading Head

This newly designed and improved intake controll system ensures economic control and protection of the screw. The control system has been redesigned to be simpler and more reliable. The air intake filter eliminates dust and other harmful particles that may cause premature wearing of the machine. Upon start-up of the machine, the control system will close the intake valve reducing start-up load. Shut down procedure will release pressure from the oil reservoir and prevent lubricant leakage. The new design has resulted in reduced air intake noise.





#### Spin on Three Stage Separator Air/Oil

Service & maintenance are made extremely simple through spin on three stage separator (upto 20 HP) and convenient location of oil receiver, oil filters and air oil separator - user friendly from servicing point of view. The separator will remove oil particles from the air down to a ratio of 1-2 parts per million. Efficient separation means post-treatment of all will be economical. Cleaner air means low maintenance costs on pneumatic equipment.

#### **Magnetic Motor**



By using permanent magnet synchronizing motor the energy saving on the VSD can be increased by 15 to 20%. Permanent magnetic motor and compressors are designed with the one shaft and by 100% transmission efficiency. Compared to normal motor the permanent magnet synchronizing motor performs with the excellent energy efficiency.



### **Oil Filter**

The screw spin on oil filter makes servicing convenient. The filter eliminates oil impurities and other particles produced by wear and tear. High quality oil filtration extends the service life of rotors, bearings and other moving parts.



Quite Operation High efficiency cooling fan provides sound level low.

### **Energy Efficient Combination Cooler**

Utilising production methods and design the cooling system was designed to provide sustainable and efficient operation in high temperature high humidity environments. The new cross-exchange cooler not only increases exchange capacity by 10% but also is designed to resist chemical damage.





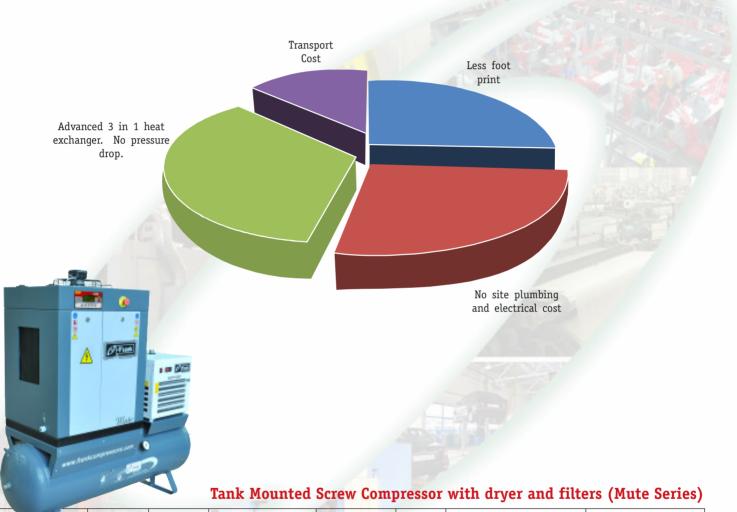
#### Motor

World-class IE2 electric motor features Grade F insulation and IP54 protection. Bearings are SKF.

# Excellence in Integrated air dryer

- Foot print required is less as compressor and dryer mounted on the air tank.
- Huge money and time saved by avoiding site plumbing and electrical.
- Compressor and dryer are independent hence dryer maintenance is possible without stopping the compressor. Therefore no production losses.
- Single transport cost.
- Plug and use on arrival of the compressor.

## **Cost saving contributors**



	Max Working	Tank Motor Flow Nois		Noise				
Model	Pressure in kg/cm <sup>2</sup>	Capacity	HP	Kw	cfm	dB (A)	Weight (kgs)	LWH(mm)
Mute-3	10	220	3	2	9.5	61	BM:110 TM:170 CDF:210	
Mute-5	8-10	220	5	3.7	21-18	61	BM:115 TM:175 CDF:215	BM:0675x0550x0815 TM:1750x0550x1430
Mute-7.5	8-10	220	7.5	5.5	25-22	64	BM:130 TM:190 CDF:230	CDF:1750x0550x1430
Mute-10	8-10-13	270	10	7.5	44-35-28	64	BM:160 TM:250 CDF:300	BM:0825x0550x0740 TM:1900x0550x1470 CDF:1900x0550x1470
Mute-15 Mute-20	8-10-13 8-10-13	500 500	15 20	11 15	63-55-45 83-74-64	65 72	BM:310 TM:470 CDF:520 BM:330 TM:490 CDF:540	BM:0950x0770x1120 TM:2100x0770x1760 CDF:2100x0770x1760
	0 10 15	500	20	15		, , ,		GD1.2100x0770x1700

BM - Base Mounted; TM - Tank Mounted; CDF - Tank Mounted with Dryer & Filters



# **Base Mounted Screw Compressor (Mute HD Series)**

	Max Working Pressure in kg/cm²	Мо	tor	Flow	Noise	1.51		
Model		HP	Kw	cfm	dB (A)	Weight (kgs)	LWH (mm)	
Mute HD-15	7-10-13	15	11	71-60-48	72	410	950x770x1120	
Mute HD-20	7-10-13	20	15	96-89-78	72	410		
Mute HD-25	7-10-13	25	18.5	120-105-85	72	480	1000x850x1240	
Mute HD-30	7-10-13	30	22	138-116-94	72	530		
Mute HD-40	7-10-13	40	30	205-173-140	72	780		
Mute HD-50	7-10-13	50	37.5	255-209-180	72	790	1270x1070x1500	
Mute HD-60	7-10-13	60	45	305-255-210	73	950		
Mute HD-75	7-10-13	75	55	368-303-271	73	1540	1700+1/00+1650	
Mute HD-100	7-10-13	100	75	464-390-350	73	1540	1700x1400x1650	
Mute HD-125	7-10-13	125	90	572-486-440	74	2480	2100x1600x2000	



### VSD Screw Air Compressor

The FRANK (Variable frequency) Variable Speed Drive VSD Series is designed as a total concept, rather than by adding a frequency converter to an existing machine, it is tightly integrated and mechanically tested and has low vibration at high performance.

Main benefits are a highly stable air net pressure, low starting currents, a total absence of peaks and a high power factor.

By varying the speed of the drive motor, the FRANK (variable frequency) Variable Speed Drive VSD Series compressor output closely follows the air demand by covering a wide range, without load-unload switching. The result is a constant pressure, without fluctuations, which greatly benefits to your overall process stability.

Furthermore, a great energy saving between 20% and 35% is achieved during partial load. The reduction in energy cost over a typical life cycle might even surpass the initial investment cost of the screw air compressor. In other words, the savings realized by VSD can pay for the entire machine.

### Energy Saving 1:1 Direct Drive transmission - Jumbo Series

Jumbo & Jumbo HD series are built for continuous duty in very hard conditions of use. The design of the machine have been focused not only on power consumption, but also on maintenance and operational costs and installation ease.

The drive between the airend and electric motor is carried out by means of gearless direct coupling connection. One to one direct drive by maintenance free coupling reduces number of components needed in gear drive, increasing reliability and service life through elimination of wear & transmission loses. Low speed 2950 RPM larger airends are more efficient than high speed airends. A dedicated airend for any machine at any pressure in order to grant maximum performance in the complete range.



Jumbo HD 50 - 125

Jumbo 15 to HD 40

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# **Base Mounted Screw Compressor (Jumbo Series)**

	Max Working -	Мо	otor	Flow	Noise			
Model	Pressure in kg/cm <sup>2</sup>	HP			dB (A)	Weight (kgs)	L W H (mm)	
Jumbo Series		-	F	4				
Jumbo-15	8	15	11	63	72	410	1250x700x1120	
Jumbo-30	8	30	22	134	72	530	1350x800x1350	
Jumbo HD Seri	Jumbo HD Series							
Jumbo HD-25	8	25	18.5	130	72	480	1350x800x1350	
Jumbo HD-40	8	40	30	205	72	830	1270x1070x1500	
Jumbo HD-50	8	50	37	225	72	830	1270x1070x1500	
Jumbo HD-60	8	60	45	268	72	1450	1900x1200x1500	
Jumbo HD-75	8	75	55	339	73	1540	1900x1200x1500	
Jumbo HD-100	8	100	75	450	73	1640	1700x1400x1650	
Jumbo HD-125	8	125	90	565	74	2580	2100x1600x2000	

# Principle of Operation - Nippydry

Warm compressed air enters the Air / Air Heat Exchanger where it is precooled by outgoing cold dry air. The precooled air enters the Air to Freon Heat Exchanger where it is cooled down to  $+3^{\circ}$ C. At this temperature, water condenses into liquid droplets, which are removed from the air stream by a very efficient Demister and automatically discharged by a Automatic Drain Valve. The Cold dry compressed air passes back through the secondary side of the Air to Air Heat Exchanger where it is reheated by the incoming warm air.



Designed for high ambient temperatures
 Time delay for compressor safety

### **Specification of Dryer**

	Flow in	Power Consumption in KW		End	Dimensions in mm			Weight	Max. Working
Model	scfm	R 134a	R 407c	Connection	Н	W	D	in Kg	Pressure Kg/cm²
Nippydry 20	20	0.32	_	1″ BSP	420	400	430	38	16
Nippydry 35	35	0.32	_	1″ BSP	420	400	430	38	16
Nippydry 45	45	0.34	_	1″ BSP	420	400	430	38	16
Nippydry 50	50	0.36	_	1″ BSP	525	450	475	48	16
Nippydry 60	60	0.36	_	1″ BSP	525	450	475	48	16
Nippydry 75	75	0.36	_	1″ BSP	525	450	475	48	16
Nippydry 80	80	0.85	_	1″ BSP	675	485	525	65	16
Nippydry 100	100	0.85	_	1″ BSP	675	485	525	65	16
Nippydry 130	130	0.85	_	1″ BSP	675	485	525	65	16
Nippydry 150	150	1.02	_	11⁄2″ BSP	860	670	700	123	16
Nippydry 200	200	2.08	2.34	11⁄2″ BSP	860	670	700	129	16
Nippydry 250	250	2.08	2.34	11⁄2″ BSP	860	670	700	129	16
Nippydry 300	300	2.40	2.40	2″ NB	1275	850	800	240	14
Nippydry 400	400	2.50	2.30	2″ NB	1275	850	800	260	14
Nippydry 500	500	2.50	2.30	2″ NB	1275	850	800	290	14
Nippydry 650	650	3.12	3.32	2″ NB	1700	1100	1425	350	14

For any other capacity contact factory. Specifications are subject to change without notification.



## **Compressed Air Filters**

Model	Element Grade	Flow cfm	Pressure Kg/cm <sup>2</sup>	Pipe Size BSP	Height (mm)	Width (mm)
F_F65	P/0/M	65	13	3/4 "	260	100
F_F150	P/0/M	150	13	1"	350	150
F_F250	P/0/M	250	13	11/2"	750	220
T 600_	P / X / Y	350	16	11/2″	474	114
T 851_	P / X / Y	500	16	2″	666	148
T 1210_	P / X / Y	710	16	2″	736	148

Specification		Element Grade	
Description	Р	0/X	M/Y
Filter Element	Borosilicate	Borosilicate	Borosilicate
Particle Removal	5 (Micron)	1 (Micron)	0.01 (Micron)
Max. Oil carryover	5 (mg/m³)	0.5 (mg/m³)	0.01 (mg/m³)
Max. Working Temp.	80°C	80°C	80°C

Ordering Code : Example : Model FPF 65 Element Grade - P; T600Y Element Grade - Y





Auto drain valve

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