

# SPECIFICATIONS



FIL/SCR\_COMP-01/0622

Models	High Stage ( 50 Hz.)				High Stage (60 Hz.)				Low Stage (Booster) 50 Hz				Low Stage (Booster) 60 Hz						
	@ - 5 deg C SST & 40 Deg C SDT								@ -40 deg C SST & -5 Deg C SDT										
	CMH	Kw	BKw	BkW/TR	Models	CMH	Kw	BKw	BkW/TR	Models	CMH	Kw	BKw	BkW/TR	Models	CMH	Kw	BKw	BkW/TR
MBM 255	433	336.2	87.4	0.91	MBM 255	521	404.5	105.2	0.91	MBM 255B	433	86.0	23.1	0.94	MBM 255B	433	103.5	27.8	0.94
MBM 255E	433	373.2	90.0	0.86	MBM 255E	521	449.1	109.6	0.86										
MBM 305	518	395.5	102.9	0.91	MBM 305	624	475.9	123.8	0.91	MBM 305B	518	101.4	27.2	0.94	MBM 305B	518	122.1	32.7	0.94
MBM 305E	518	439.0	107.1	0.86	MBM 305E	624	528.3	129.0	0.86										
MBM 384	652	497.7	129.5	0.91	MBM 384	785	599.1	155.9	0.91	MBM 384B	652	127.7	34.3	0.94	MBM 384B	652	153.7	41.3	0.94
MBM 384E	652	552.4	134.9	0.86	MBM 384E	785	664.9	162.3	0.86										
MBM 517	878	666.2	165.7	0.87	MBM 517	1057	802.1	199.5	0.87	MBM 517B	878	171.3	43.6	0.89	MBM 517B	878	206.7	52.5	0.89
MBM 517E	878	739.5	172.6	0.82	MBM 517E	1057	889.9	207.7	0.82										
MBM 689	1171	888.7	221.0	0.87	MBM 689	1409	1069.4	266.0	0.87	MBM 689B	1171	228.5	58.1	0.89	MBM 689B	1171	274.8	70.0	0.89
MBM 689E	1171	985.9	228.6	0.82	MBM 689E	1409	1186.6	276.9	0.82										
MBM 890	1512	1200.0	288.8	0.85	MBM 890	1820	1444.3	347.6	0.85	MBM 890B	1512	304.6	75.3	0.87	MBM 890B	1512	366.7	90.7	0.87
MBM 890E	1512	1331.6	300.8	0.79	MBM 890E	1820	1602.7	362.0	0.79										
MBM 1120	1903	1511.0	363.4	0.85	MBM 1120	2290	1818.7	437.8	0.85	MBM 1120B	1903	383.6	94.9	0.87	MBM 1120B	1903	461.9	114.2	0.87
MBM 1120E	1903	1677.0	378.8	0.79	MBM 1120E	2290	2018.3	455.9	0.79										
MBM 1384	2351	1867.6	449.5	0.85	MBM 1384	2830	2247.4	541.0	0.85	MBM 1384B	2351	474.3	117.3	0.87	MBM 1384B	2351	570.8	141.2	0.87
MBM 1384E	2351	2072.5	468.1	0.79	MBM 1384E	2830	2494.1	563.3	0.79										
MBM 1600	2718	2150.6	518.1	0.85	MBM 1600	3271	2588.0	623.4	0.85	MBM 1600B	2718	546.2	135.1	0.87	MBM 1600B	2718	657.4	162.5	0.87
MBM 1600E	2718	2328.3	539.0	0.81	MBM 1600E	3271	2801.8	648.7	0.81										
MBM 2000	3398	2708.2	652.4	0.85	MBM 2000	4089	3258.9	785.1	0.85	MBM 2000B	3398	687.7	170.1	0.87	MBM 2000B	3398	827.6	204.7	0.87
MBM 2000E	3398	2932.0	678.8	0.81	MBM 2000E	4089	3528.4	816.9	0.81										

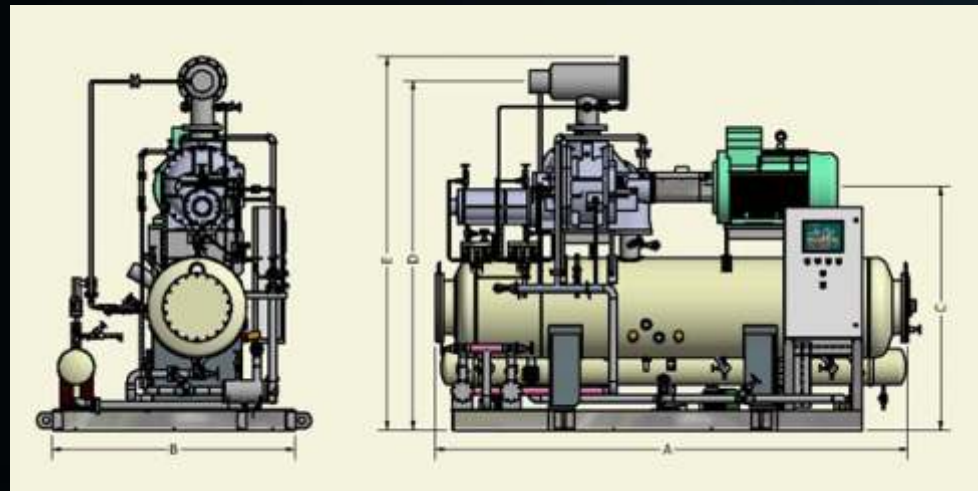
Notes : a) Allow 48 inch / 122 Cm free Space required on motor end to pull out Coalescer element.  
 b) Dimension and Performance Data given is for Ammonia Units Only. For other refrigerants pl use FISCom Software or Contact Factory.  
 c) All Specifications are subject to Change without Notice.

# ENERGY SAVING, FULLY AUTOMATED ROTARY TWIN SCREW COMPRESSOR PACKAGES

For Industrial Refrigeration

**MBM SERIES**

# DIMENSIONS



DIMENSIONS(mm) & Weight (Kgs.)						
MODEL	A	B	C	D	E	WT.
MBM-255	3060	1650	1465	2175	2330	2208
MBM-305	3060	1650	1465	2175	2330	2219
MBM-384	3060	1650	1465	2175	2330	2350
MBM-517	3555	1800	1610	2320	2475	2716
MBM-689	3610	1800	1610	2320	2475	2850
MBM-890	3610	1850	1850	2660	2850	4900
MBM-1120	3610	1850	1850	2660	2850	5100
MBM-1384	3610	1850	1850	2660	2850	6350
MBM-1600	3933	1950	2070	2967	3180	6700
MBM-2000	4272	2036	2253	3160	3370	6890



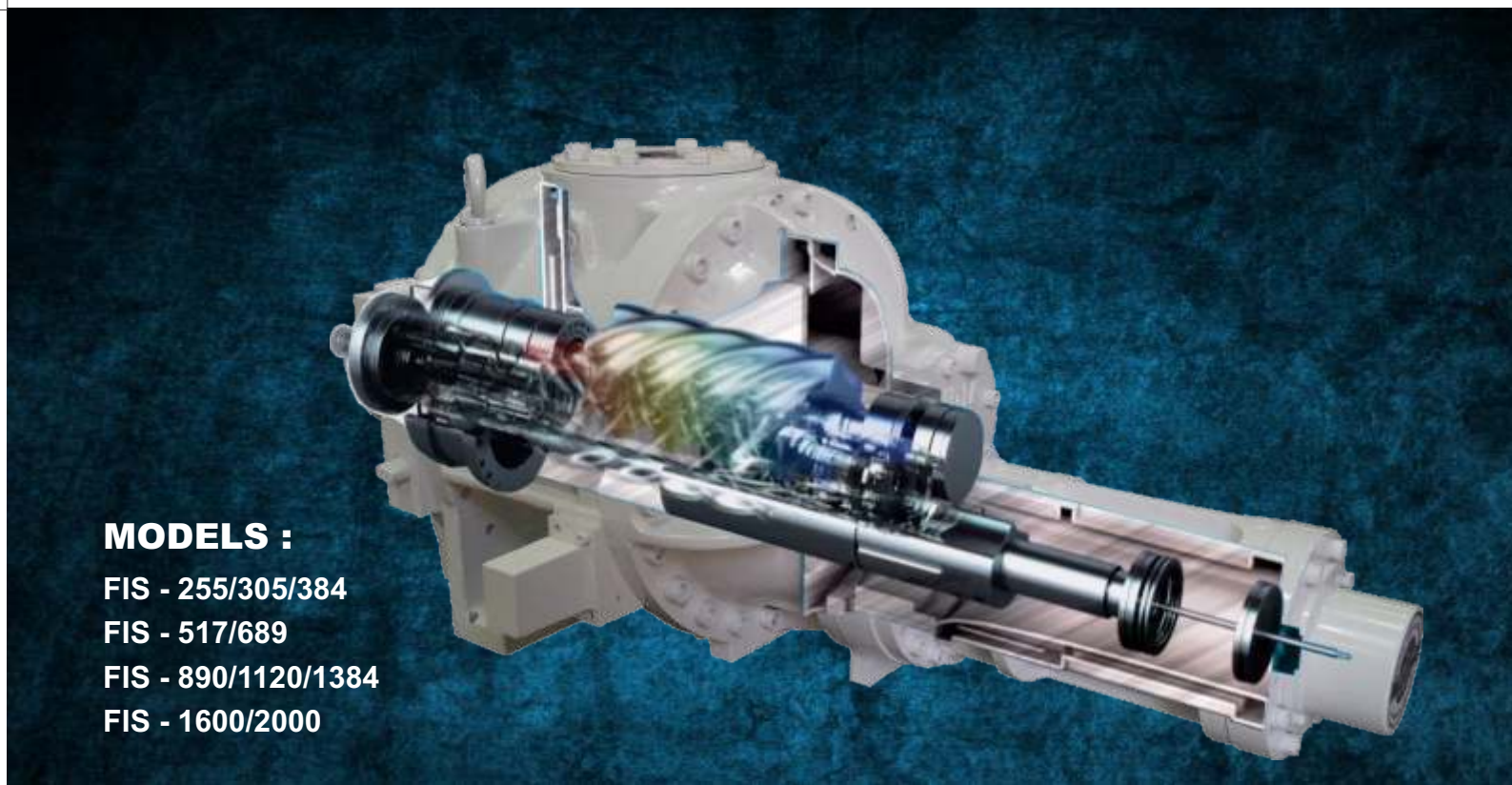
*fil compressors*

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*fil compressors*



**MODELS :**

- FIS - 255/305/384
- FIS - 517/689
- FIS - 890/1120/1384
- FIS - 1600/2000

**WORLD CLASS ROTARY TWIN SCREW COMPRESSOR BLOCKS**

*fil compressors* offers High energy efficient Twin Screw Compressor Blocks ranging from 414 CMH to 3250 CMH manufactured in our ISO 9001:2015 certified high precision Manufacturing Facility, with world class performance testing facility as per ISO 917 standards.

**INHERENT DESIGN ADVANTAGES**

- “N” Profile Rotors manufactured by M/s Holroyd by using latest technology under the technical know-how from “City university, London”
- Advanced Bearing technology
- Stepless Variable Volume Control
- Variable Capacity Control System
- Highly Efficient three stage Oil Separation System
- Fully Automatic Control by Frick India Microtech System
- Proven Reliability
- TENDEM Single and Double Mechanical seal



**CAPACITY CONTROL**

Capacity Control is achieved by use of a movable Slide Valve. The slide valve moves axially with the rotors to provide fully modulating capacity control from 100% to approximately 10% of full load Capacity.

**REFRIGERANTS USED**

- Ammonia (R-717)
- Chlorodifluoromethane (R-22)
- Propane (R-290)
- 1,1,1,2 Tetra fluoroethane (R-134a)
- Hydrofluorocarbon Blends (R-404a; R-407c; R-507)
- Iso-butane (R-600a)
- Propylene (R-1270)
- Chloroethene (Vinyl Chloride Monomer)

**WIDE RANGE OF APPLICATIONS (+5 DEG C TO -60 DEG C)**



Application : Propane Chilling Operating Temp. : -25 Deg C

Application : Tuna Freezing Operating Temp. : -60 Deg C



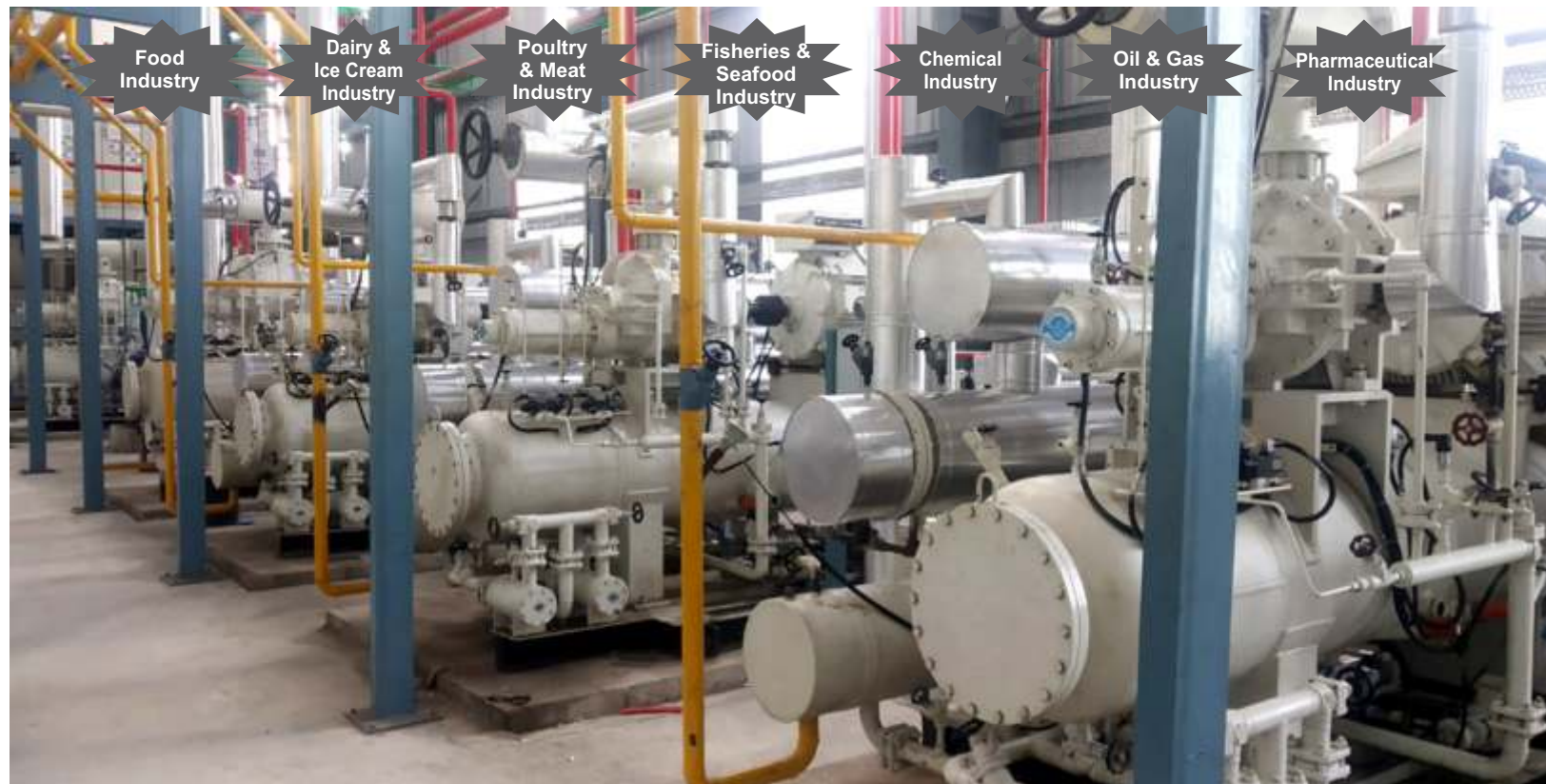
Application : low Sugar Potato Cold Storage Operating Temp. : 5 Deg C

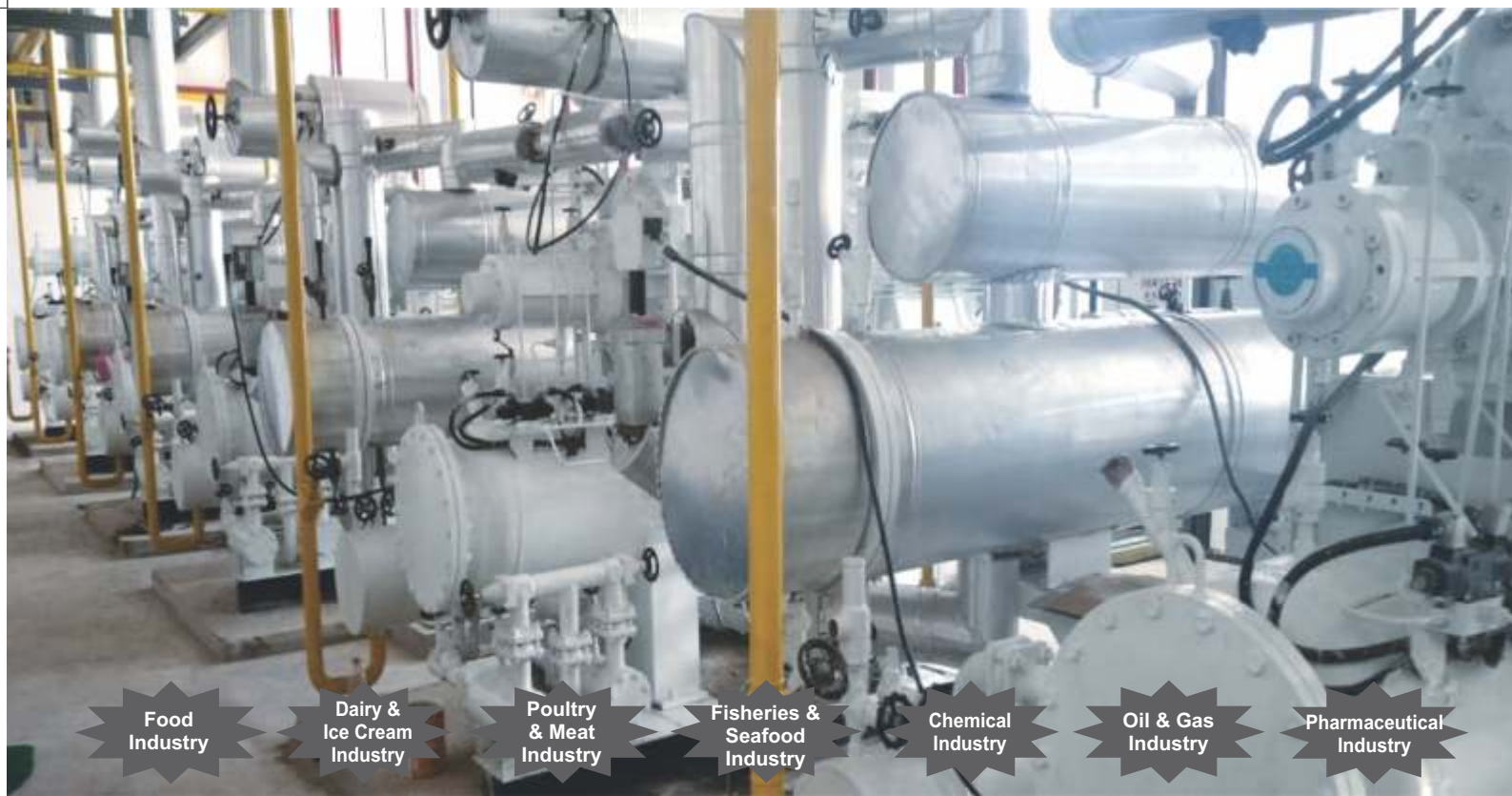
Application : CA Cold Storage Operating Temp. : -10 Deg C



Application : Methanol Chilling Operating Temp. : -25 Deg C

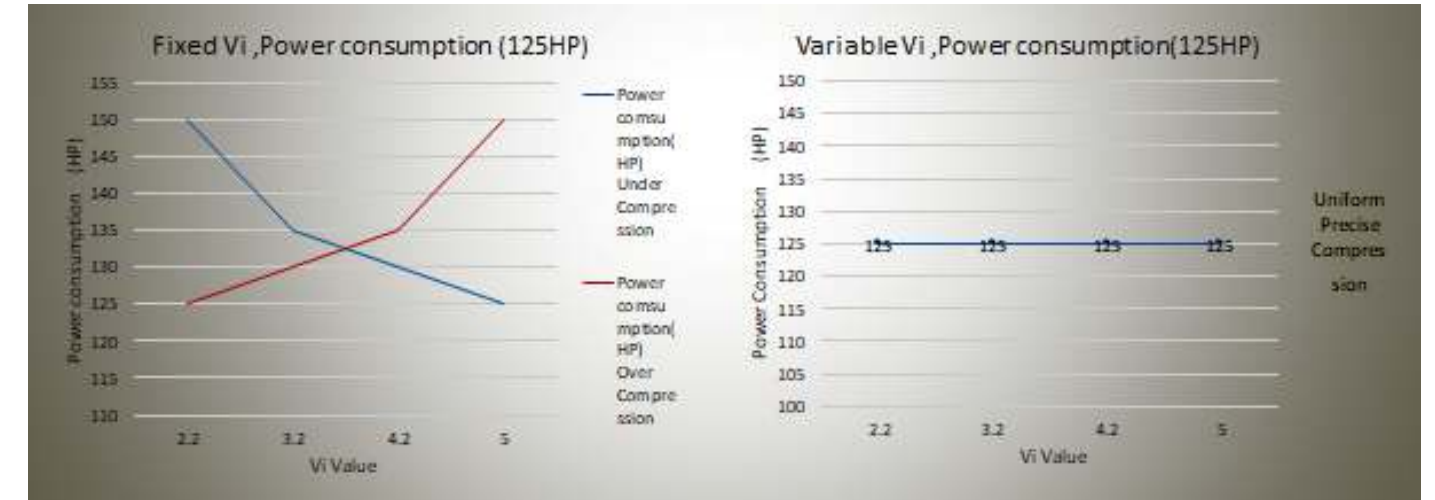
Application : Milk Processing Operating Temp. : -10 Deg C





## FULLY AUTOMATIC VARIABLE VOLUME RATIO CONTROL

*fil compressors* screw packages work under wide range of operating conditions with maximum power saving delivered by using Variable Vi Technology which matches external & internal pressure ratios. As per test record, fully automatically variable volume Controlled packages are saving 5 to 15% of overall power consumption w.r.t. a standard fixed Vi Screw Package available in market.



## WIDE RANGE OF APPLICATIONS (+5 DEG C TO -60 DEG C)



## ADVANCED "N" PROFILE ROTORS

The rotors are from low carbon steel forgings AISI 1045 to the exacting tolerance of the latest "N" profile manufactured by renowned company of U.K., M/s Holroyd by using latest technology under the technical know-how from "City University, London". The four lobed male rotor is directly connected to the drivers. The six lobed female rotor is driven by the male rotor on a thin oil film.





## ADVANCED DE-SULPHURISING COMPOSITION AND TEMPERATURE CONTROLLED FOUNDRY

*fil compressors* is committed to manufacturing third generation highest quality compressors. The process starts with casting in our latest State-of-the-Art foundry in our Factory. All screw compressor casting are designed and tested to meet the requirements of ASHRAE 15-78 safety codes for 350 psig maximum discharge pressure. Fined Grey and alloy Cast Iron Casting as per ASTM A 48 & ASME SA 278 CL 35 & CL 40 to ensure structural integrity.



## WIDE RANGE OF MARKET/SERVICE NETWORK



*fil compressors* has a wide range of Market as well as Service and Support Network. The company is Exporting Industrial refrigeration equipment and Turnkey solutions for all Industrial Refrigeration applications to more than 50 Countries worldwide.

*fil compressors* has a experienced team of highly skilled & specially trained engineers and technicians, available 24/7 on a dedicated support to execute all types of Industrial Refrigeration and Air-Conditioning work scopes installed by us.

*fil compressors* inspect old plants installed by our competitors to evaluate and refurbish the plant with F I L compressors Twin Screw Compressors for better energy efficiency and improved refrigeration performance.

## GENUINE SPARE PARTS

*fil compressors* offers maintenance, Operation and training with easily available Spares as required for the smooth function and efficiency of Refrigeration system.

*For longer life and low power costs always use  
fil compressors Genuine Spares*



## TRAINING & SKILL DEVELOPMENT

Apart from our regular after sales service, we regularly train the people through our comprehensive training program in our Factory as well as our client's place. We have developed video interactive training modules on different topics for better understanding and skill development.

This is not only helping them to understand the safety of the plants but is also increasing their performance and productivity.





## HIGH PRECISION MACHINING

*fil compressors* use state of the art CNC machining system to meet the highest possible accuracy in order to produce high efficiency compressors. We use state of the art horizontal machining centres to produce casing in order to achieve accuracy.



## AUTOMATION SYSTEM

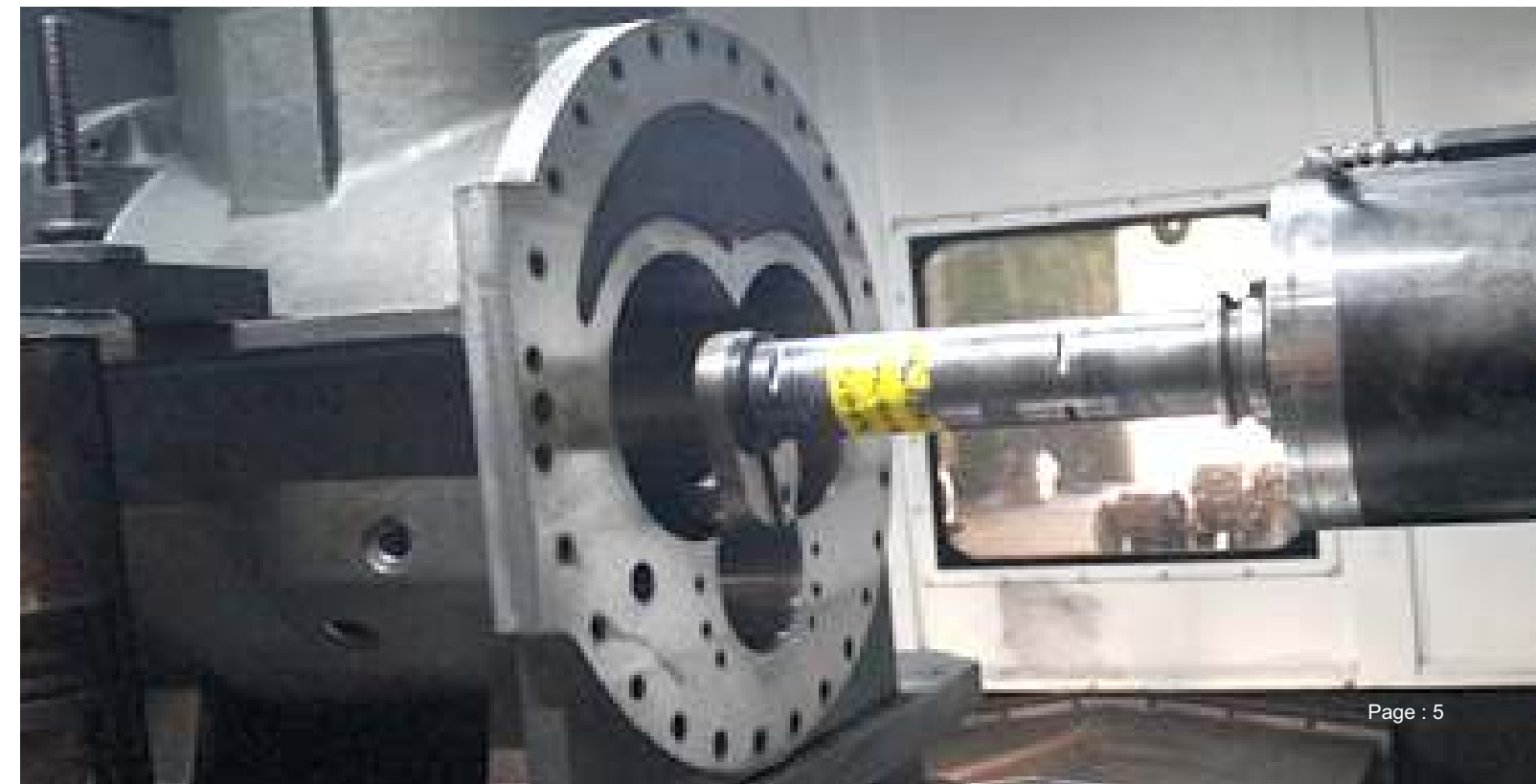
*fil compressors* offers Microtech System for fully automated plants. This system works with high efficiency & high performance either in automatic or in manual mode, which is extremely safe and easy.

The main Advantages are :

- Improve the quality and precision
- Increase in productivity
- Cost reduction
- Reliable performance
- Maintain accurate temperature
- Control your power efficiency
- Read and capture data
- Run system at ideal condition
- Reduce plant breakdown
- More safety to your plant
- Avoid monotonous Work



## QUALITY ASSURANCE





## ASSEMBLY SECTION: SCREW BLOCKS

Assembly of High efficiency Screw Blocks and packages has been performed by technical engineers at advanced and upgraded manufacturing facility at our factory.



## TEST RIGS AS PER ISO 917:1090(E) AND IS 10431 STANDARDS



## CUSTOM BUILD ROTARY TWIN SCREW COMPRESSOR PACKAGES

- *fil compressors* offers MBM Series Rotary Twin screw compressor packages in ten high efficiency models, ranging in capacity from 433CMH to 3928 CMH at 2950 RPM as well as 521 CMH to 4089 CMH at 3550 RPM.
- Standard units are designed for use on ammonia, halocarbon and hydrocarbon refrigerants at pressure ratio upto 26:1.
- The oil separator is a horizontal, three stage design with integral sump. Two sight glasses are located in the reservoir section and one in the coalescing section. Two 1000 watt heaters maintain oil temperature at 30 Deg C minimum during compressor shutdown in winter season and are replaceable without shutting the compressor down.
- Coalescer filter elements are provided for final gas/oil separation of particles down to less than 1 micron.
- Superior quality two numbers of micro filters are located downstream of pump to eliminate the dust particles and are cleanable without shutting down the compressor.
- The compact, vibration free F I L compressor packages are designed for all Industrial refrigeration and air-conditioning requirements.
- **Variable Volume Ratio Control** : Variable Volume Ratio Technology to operate based on operating parameters saves Energy.
- **Lubrication System** : The standard high stage unit is furnished with a close coupled positive displacement Pre-Lube-Pump for start up only. The cycling full lube pump operated only when the suction-discharge differential is not sufficient to provide adequate lubrication and will shut off automatically to conserve pump motor power when not required.
- Low maintenance and less moving parts.
- Speed of the Compressors automatically controlled by VFD's.
- Premium efficient (Ie4) motors will be supplied as optional.
- All critical and operating parameters are automatically controlled by advanced Microtech System.
- Three stage oil separation system
- High quality micro oil filtration.
- Dual safety valve and oil filter.
- Compact design.



*fil compressors* offers complete capacity and efficiency testing for all models of screw blocks in their in-house testing rig installed as per ISO 917:1989(E) and as per IS 10431 standards approved by IITD.